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Journal of Natural Resource Management and Interdisciplinary Studies

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Public Inquiries and the Protection of the Public Interest in Resource Development Projects

by
Kenneth M. Lysyk, Q.C.

Dean Kenneth Lysyk has been the Dean of Law at the University of British Columbia since 1976. Prior to his appointment he was Deputy Attorney General of Saskatchewan for four years. From 1970 to 1972 he was Professor of Law at the University of Toronto and during the nineteen sixties he was a member of the Faculty of Law at the University of British Columbia. In 1969-70, Dean Lysyk acted as an Advisor in the Privy Council Office (Constitutional Review Section) for the Government of Canada and from 1970 to 1972 he acted on a part-time basis as Legal Advisor and Director of Legal Research for the Indian Claims Commission. Dean Lysyk is a member of the Bars of Saskatchewan, British Columbia and the Yukon, and was appointed a Queen's Counsel (Saskatchewan) in 1973. Most recently Dean Lysyk served as Chairman of the Alaska Highway Pipeline Inquiry. Following is the text of an address presented in Winnipeg on January 19, 1978 as the fourth address in the Natural Resource Institute's Distinguished Lecturer Series. This series has been made possible by a grant from IBM of Canada Limited.

Introduction

In recent years there has been growing concern about the process of decision-making for major resource development projects. More specifically, concern has focussed on the mechanisms for attempting to reconcile the interests of minority or local groups with the interests of the larger society. My observations on this area of concern will be directed to one particular type of mechanism – the public inquiry – and I will rely heavily on impressions gained during my involvement with the Alaska Highway Pipeline Inquiry.

There is, of course, nothing new about the phenomenon of government establishing a public inquiry to provide it with information and advice in the formulation and implementation of policy. It is a practice which has a longer history than the Canadian federation itself, and it has been resorted to with considerable frequency. A recent study by the law reform commission of Canada supplies some figures on the number of commissions appointed since confederation under the Federal Inquiries Act – some 400 public inquiries under Part I of the Act, which takes in the advisory type of inquiry, and an estimated 1500 "Departmental Investigations" under Part II of the Act. The same study notes that powers of inquiry are conferred as well under at least 47 other federal statutes, but it is unable to supply an estimate for the number of inquiries established under those other statutes. Nor does it offer an estimate as to the number of public inquiries that have been established by provincial governments.

It might be added that, for good or ill, there is no sign of let-up in the rate in which public inquiries are being created. Indeed, over the past year Canadians reading their newspapers could be forgiven for reaching the conclusion that one of the few growth industries on the current national scene is the inquiry business!

Inquiries, therefore, are a well-established part of the machinery of government in this country. Many have been associated with what were, and are, regarded as public policy issues of major importance. From the abiding concerns – such as federal/provincial relations and bilingualism and biculturalism – to perhaps more transitory but nonetheless important issues of the day, such as conduct of the R.C.M.P., inquiries have often provided a focal point for the national debate. If a visitor from another planet had no other information sources available, he could learn a good deal about the course of Canadian history and politics from a collection of the materials that have been generated by public inquiries in this country.

Reasons for Inquiries

What has led governments to resort to public inquiries in this way? After all, Canadians can, with justification, take pride in the high quality of our public service. It is one which compares very favourably with that of other countries. And if additional expertise is required, outside consultants can always be retained. Why then cannot these problems be satisfactorily dealt with by the regular government bureaucracy? There are several reasons why the establishment of a public inquiry may be preferred to reliance upon the regular process of government.

To begin, there is the question of availability of time. Coming to grips with large and complex issues, and the data relevant to such issues, may demand sustained attention of a kind which cannot reasonably be expected either from members of the cabinet or from their senior advisors in the public service. The time problem is no doubt less acute for members of the legislature who are not cabinet ministers. But their priorities too are influenced by the fact that the span of public attention on a single issue, however important that issue might be, is likely to be relatively short, and other matters requiring political attention are ignored at the politician's peril.

The "backbencher" in Canadian legislative bodies has been hampered by very limited resources with which to engage in independent investigation and research. Traditionally, parliamentary committees in Ottawa and legislative committees in the provincial capitals have been obliged to operate on modest budgets and have laboured in relative obscurity. The situation in the United States is quite different. Congressional committees exercise very real power, enjoy relatively high visibility, and have at their command the necessary resources for investigation and research. As a result, the congressional committee provides an outlet for the talents of energetic legislators of a kind which is not presently available to their Canadian counterparts.

Indeed, the Canadian public inquiry, notwithstanding that it is a creature of the executive, invites comparison with the congressional committee in several important respects. For although the inquiry relies upon the government for funding, it is independent in every other respect. And while having no direct power beyond that of making recommendations, it has been the case, particularly in recent years, that public inquiries tend to attract considerable public attention and thus carry a corresponding potential for influencing public opinion and for making an impact on the political decision-making process. The availability of financial resources necessary for investigation and research has also been important, of course, and I will return to the subject of funding at a later stage in these remarks. My present point is simply that a comparison between U.S. congressional committees on the one hand and our parliamentary committees on the other perhaps goes some distance toward explaining the scope of operation left for the public inquiry here, and why the inquiry has figured so much more prominently in the public affairs of this country as compared with the role of commissions mandated by executive government in the United States.

While I have made reference to certain constraints imposed by availability of time and resources on decision-making within government, some elaboration is required. The pressures of time, and the risks of being diverted in order to cope with other crises or administrative responsibilities are, of course, most severe at the highest levels of government. But there are frequently highly qualified experts within the public service who can be extricated from other responsibilities in order to undertake in-depth studies of the subject on which the government requires advice. Should that not obviate the need to reach outside government for personnel to conduct an inquiry? Not entirely, for additional considerations may come into play.

For one thing the public perception is apt to be that the career public servant, however able, cannot totally dissociate himself from the policies and priorities of his political masters so as to have the same scope for exercise of independent judgement as that enjoyed by the person or persons appointed to conduct a public inquiry. Where the credibility of the process is of critical importance, regard must be had to the appearance of objectivity as well as to its reality.

Another consideration is perhaps worth mentioning. The steady increase in the responsibilities undertaken by government, and therefore in its sheer size, does make it increasingly likely that there will be enough expertise within the public service to tackle the problem to which a solution is sought. But when the matter is one which touches the responsibilities of a number of departments and agencies, lack of coordination and even rivalries among them are capable of complicating and impeding the process of decision-making. The ephemeral nature of a public inquiry carries the advantage of exempting it from the kind of problems sometimes associated with "protection of turf".

Another very important feature of the public inquiry, in contrast with the normal course of governmental decision-making, is the opportunity it provides for direct public participation through the hearing process. The first, and most obvious purpose served by such participation is to provide the government with an assessment of public attitudes on the matter in question – whether relating to a proposal for legislative or other action by government or, as in the case of resource development projects, an initiative taken by private interests for which government approval is sought. The hearing process itself, with the media coverage it attracts, may of course play a part in shaping these public attitudes. There is, therefore, an important potential, not only for assessing but for informing and influencing public opinion through the sharpening of the issues, and the information exposed, in the course of the hearings.

Now in pointing to some of the reasons which move a government to establish an inquiry I do not overlook the possibility that other and less laudatory motives may on occasion be thought to have played a part. And certainly there are criticisms of this mechanism which are entitled to serious consideration.

Government, it is said, may be inclined to resort to an inquiry as a substitute for taking action, and perhaps with a view to defusing a controversial issue. And if handling of a problem within the regular government bureaucracy may suffer under constraints of time and financial resources, public inquiries are frequently criticized for consuming an excessive amount of both. As in the case with the subject of A.P. Herbert's poem concerning the proceedings of the mythical royal commission on Kissing,[1] it may be observed that "these things take a long, long time."

Some would question, as well, whether the public hearings forming part of the process are not over-rated in the name of a currently fashionable participatory democracy. In a comment on a paper examining the role of public inquiries in the Canadian Constitutional system Professor John Willis stated:

> "I feared (the speaker) would cheer the replacement of the so called 'governmental secrecy' by that darling of the Eastern Seaboard intellectual, 'open plans openly arrived at after wide public discussion'. . . .
>
> 'Wide public discussion' too often costs, in my view, more than it is worth. It encourages a government, any kind of government, to substitute talk for action. To judge from the antics of some citizen groups in connection with recent municipal issues in Toronto, and from the barrage put up by some Toronto lawyers on behalf of rich clients against the tax reforms proposed by the Carter Commission, it is usually the voices of the least informed and the most self-seeking that are the loudest."[2]

Professor Willis is not alone, of course, in suggesting that the hearing process can be over-rated, and even abused.

Then, too, one hears criticism of the public inquiry to the effect that it imposes additional onerous demands upon the entrepreneur who is already plagued by unreasonably heavy demands made by a burgeoning government bureaucracy. Over-regulation, it is said, already impedes and threatens to stifle private initiatives. The public inquiry constitutes a further process, interposed between proposal and execution of a project, which can be both frustrating and costly to the proponent. The members of the now-defunct Canadian Arctic gas consortium will have some views on this, having invested several years and well over 100 million dollars in work on the proposal, which proved abortive, for construction of a pipeline down the Mackenzie Valley.

Assessing Resource Development Projects

To this point my observations have related to public inquiries generally and now I wish to narrow my frame of reference to the inquiry as a vehicle for assessing major resource development projects. Here our experience with public inquiries is both limited and very recent. It begins with the appointment in March, 1974, of Mr. Justice Berger to inquire into and report upon the terms and conditions to be proposed in respect of any right of way that might be granted across crown lands for purposes of the proposed Mackenzie Valley gas pipeline having regard, among other things, to social, environmental and economic impacts. Volume 1 of the Berger Report appeared in May of 1977 and Volume 2, on proposed terms and conditions, was released in January, 1978.

In the spring of 1977 the Board of Inquiry on which I served as chairman was appointed to consider certain aspects of a proposal to construct the northern gas pipeline along a route which generally followed the Alaska Highway through the southern Yukon. Specifically, we were directed to prepare a preliminary report identifying the principal social and economic implications of the proposal and the attitudes of people in the Yukon to it. At about the same time, an environmental assessment and review panel was established to prepare a preliminary statement on the environmental implications of that proposal. Our inquiry and the environmental panel were both directed to report by the beginning of August, 1977, and that was done.

Three other public inquiries were established in 1977 with terms of reference calling for assessment of developing impacts. The federal government appointed Dr. Andrew Thompson, a colleague of mine in the Faculty of Law at the University of British Columbia, to conduct the west coast oil ports inquiry. The hearings of that inquiry were recently adjourned until such time as a specific prosposal might be advanced for proceeding with such a project. Mr. Justice Bayda of the Saskatchewan Court of Appeal was appointed by the government of that province to chair the Cluff Lake Board of Inquiry into proposed expansion of the uranium mining industry in that province. That inquiry has concluded its hearings. Lastly, the government of Ontario appointed Mr. Justice Hartt of the Ontario Supreme Court in connection with future activity planned by the Reed Paper Company in Northern Ontario. His terms of reference were subsequently broadened to confer, in effect, a mandate to report on the future development of northern Ontario, and that inquiry is expected to take several years.

There are certain features common to the inquiries I have just mentioned beyond the fact that they are all associated in one way or another with resource development. Each is concerned with development in a northern, relatively remote and sparsely settled region of Canada in which a substantial proportion of the population is made up of native people.

I have already indicated in general terms some of the reasons why a government might be moved to establish a public inquiry. Let me now add to the list one of two that pertain specifically to an inquiry appointed to examine a major resource development project.

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[1] Sir Alan Hebert, *Mild and Bitter,* p. 254; quoted in an article by Lockwood, Thomas"A History of Royal Commissions," *5 Osgoode Hall Law Journal,* Vol. 172, 1967.

[2] Comment on Gerald E. LeDain's "The Role of the Public Inquiry in Our Constitutional System" in Ziegal, Jacob S. (ed.), *Law and Social Changes,* Toronto: York University, 1973, pp. 98-99.

First, there is the obstacle to understanding presented by the sheer scale of the proposed development. The proposed northern gas pipeline, billed as the largest privately financed construction project to date, is a case in point. The range and complexity of the issues is to some extent simply a function of size. How is the individual – whether legislator or concerned citizen – to come to terms with the implications of a project which so far transcends anything in his previous experience?

Take, as an example, the proposed Alaska Highway Gas Pipeline. What can the Yukoner rely upon in his personal experience that would help him reach an informed judgement on the implications of the proposal? There have been other pipelines built in the Yukon, it is true, but the difference in scale between those projects and this proposal is so great as to represent a difference in kind. The present pipeline proposal, among other things, involves a massive influx of people for the period of construction. Only twice before in the history of the Yukon has any remotely comparable invasion of people from "the outside" taken place. The first was the great Klondike Gold Rush just before the turn of the century and the second was the construction of the Alaska Highway during World War II. No doubt there were lessons to be learned from the latter, if not the former, but the availability and reliability of transferable experience is obviously subject to severe limitations.

If Yukoners would not find it easy to put the proposal in some sort of perspective, how much more difficult is it for southerrn Canadians, few of whom have been to the Yukon or anywhere near it, or who can be assumed to have had occasion to learn much about its geography, or about the people who live there and their way of life.

It is not only laymen, northern or southern, who may have difficulty in assessing the full impact of a project proposal of this kind. The expert, too, may encounter problems even within his own area of expertise. In part that is due to the fact that there may be few, if any, reliable precedents to guide him. Problems unique to the northern environment may require technological innovation and previously untried techniques with all the potential for unforeseen environmental impacts that entails. Clearly social scientists have been handicapped by deficiencies in the existing data base upon which they must rely to understand the present northern economy and the social facts of northern life, and to predict the impacts of major development projects.

What I am driving at is simply this. Apart from any other considerations, the scope for performance of an educative function by a public inquiry in this context is very great. This arises partly from its potential as an instrument for disseminating information which is not otherwise likely to be made readily accessible to the public. Further, insofar as expert evidence is concerned, an opportunity is provided not only to elicit expert opinion but to have it tested through cross-examination, rebuttal evidence, and the other techniques available in the hearing process. At their best such hearings are capable of producing, or at least providing the basis for, a clear definition of the issues and an analysis, in terms comprehensible to the non-expert, of the available data and the present state of the arts as they relate to those issues.

There was another very important dimension to the hearings conducted by our inquiry, and in respect of which the expert evidence provided only very limited assistance. I have referred to the fact that we were directed to report not only upon the principal socio-economic implications of the Alaska Highway Pipeline proposal, but also upon the attitudes to the proposal held by the people who lived in the region that would be affected. It was clear from the outset that that involved addressing certain social facts and issues which provided the setting against which the pipeline proposal had to be assessed. There were major concerns, that is to say, which did not turn on a fine analysis of the specifics of that construction project and, in fact, similar concerns might have been raised by any large scale development project in the Yukon at this time.

One important reality had to do with the uneasy state of relations between Indians and whites in the Yukon. The former group comprising both status and non-status Indians, constitutes a minority numbering an estimated 6,000 in a total Yukon population of approximately 22,000. We heard a good deal about the division which exists between Indians and whites in the Yukon, and there was a perception that the gap between them had, if anything, been widening in recent years. The pipeline proposal represented a new and controversial issue, carrying with it the risk of increased tensions and even further polarization into separate, parallel societies.

A second major consideration was that the Yukon Indian Land Claim had not been settled, and the proposed pipeline project was seen as jeopardising the process of securing a satisfactory settlement of the claim and the implementation of that settlement. Tripartite negotiations for settlement of the claim had been commenced which involved the two levels of government – the governments of Canada and of the Yukon – and the Council for Yukon Indians, representing both status and non-status Indians. (The C.Y.I. was formed specifically for purposes of the land claim negotiations by the two organizations which represented status and non-status Indians, respectively, the Yukon Native Brotherhood and the Yukon Association of Non-Status Indians.)

It might be noted that the central nature of the concerns mentioned above was reflected in the structure of our board of inquiry. One of my colleagues on the board was a nominee of the Council for Yukon Indians and the other was nominated by the Government of the Yukon. Both of the nominees were Yukoners and consequently brought with them, in addition to their abilities and experience, an intimate knowledge of the Yukon and its people. Their deep understanding of local circumstances and sensitivities proved to be of great value time and again during the hearing process, as well as in the course of our deliberations.

There are, of course, certain risks involved in opting for a multi-person board or commission of inquiry, particularly where it has a representative character. One obvious hazard is that a division of opinion might occur, resulting in one or more dissenting reports, and a consequent weakening of the force of the recommendations made. I suppose my own views may be coloured by the fact that we did not experience that difficulty, and we were able to issue a report which expressed unanimous views. In any event, I do believe that the structure of our board made very good sense having regard to the nature of our task and the social setting in which our hearings were to be conducted.

Let me come back for a moment to the social and economic circumstances with which we were confronted. For the Indian people the proposed pipeline could be seen as yet another economic development the benefit of which would likely accrue to the white community, and the harmful consequences of which would be experienced by Indians. Settlement of the land claim, looked to as providing the means for a fresh beginning, might be prejudiced by the pipeline project. And even of the settlement were achieved promptly, the disruption attendant upon an influx of southerners could interfere with implementation of the settlement.

To many whites, the position being taken by Indian spokesmen appeared to be unduly pessimistic. The pipeline held out promise of reviving a stagnant economy in the Yukon, and providing job opportunities for many whose choice would otherwise lie between unemployment and welfare in the Yukon or moving south. The nature and significance of the Yukon Indian land claim was not always well understood and was even seen by some as threatening.

Against this backdrop there was concern expressed that our public hearings would themselves be divisive. Because they would involve issues upon which there could be profound disagreement, would they not invite confrontation and heighten existing tensions?

That did not turn out to be the case. I am convinced that on the whole the hearings contributed to understanding amongst the Yukoners in a number of important ways. In part that was due simply to ventilation of the issues and exposure of information that helped to clear up some misconceptions. For example, the evidence relating to the Yukon Indian Land Claim was, I think, helpful not only in impressing upon white Yukoners the importance of achieving a just settlement of the land claim, but in bringing home the realization that the financial and other resources made available through the settlement could provide a useful spur to the Yukon economy as a whole.

Similarly, the hearings helped dispel the myth of two monolithic and diametrically opposed points of view held by whites on the one hand and Indians on the other. A significant number of whites, as well as Indians, were opposed to the pipeline and the threat it represented to the environment and to a way of life. Many others expressed deep concern about its implications and conditioned their approval on the taking of appropriate measures to prevent, or at least mitigate, expected impacts. And there were Indians as well as whites who recognized that the project could, under the right circumstances, provide valuable opportunities. What emerged, in short, was an awareness that there was perhaps a higher degree of common interest cutting across the various segments of Yukon society than may have been commonly realized.

As the report of our inquiry made clear, we reached the conclusion that it was of absolutely critical importance that the deterioration of relations between Indians and whites in the Yukon be halted, and reversed, and we said that achievement of that objective should be a leading priority for the government. We stated that basic to the recommendations in our report was the view that solutions must be sought and found which would promote, not further erode harmonious relations among all segments of Yukon society. We thought it important that Yukoners not become so preoccupied with issues capable of dividing them that they overlooked the fact that there were widely shared values and objectives. We emphasized the importance of a willingness to compromise, and to seek out a middle ground that would be acceptable to all segments of that society. We noted that in the course of the discussions on settlement of the land claim, there had been agreement on the desirability of working through a one-government structure reflecting, and responsive to, the interests of all residents in the Yukon, and our own substantive recommendations adopted that principle.

In brief, we saw no place in the future of the Yukon for a northern version of "two solitudes", divided along racial lines.

Since these remarks relate to process, I do not propose to explore the extent to which our substantive recommendations were based upon the considerations to which I have just referred. My purpose was to convey some impression of how important it seemed to us that our inquiry perform a bridging function between majority and minority groups in the Yukon as a whole, and in individual communities. The process itself was arguably as important as our ultimate recommendations in that respect. It was our impression that the hearings, and particularly the informal hearings in the communities, did contribute an important way to furthering mutual understanding between Indians and whites in the Yukon.

The Hearings

Now I wish to offer a few observations on particular aspects of the public inquiry process and, once again, it will be convenient to refer to the experience of our own inquiry. I believe it might be useful to outline very briefly the procedures we followed.

We conducted two different and distinct sets of hearings. There were the formal hearings, all of which were held in Whitehorse, and there were informal, community hearings held in sixteen other communities around the Yukon.

At the formal hearings all the major participants were present. That of course included the company proposing to construct the pipeline along the Alaska Highway – Foothills Pipe Lines (Yukon) Ltd. – and also the one associated with the Mackenzie Valley route: Canadian Arctic Gas Pipeline Ltd. The Council for Yukon Indians and the Government of Yukon were there, the participation of both being funded directly by Ottawa. They, like the pipeline companies, were represented by lawyers. In addition there was an independent group of experts – the Alaska Highway Pipeline Panel – whose participation was funded by Foothills. Finally, there were the groups funded by our inquiry on the basis that their participation served the public interest: The Yukon Conservation Society, the Yukon Association of Social Workers and the Whitehorse Chamber of Commerce.

At these formal hearings the proceedings were similar in many respects to those of a court of law. Sworn evidence was presented by experts, who were then subject to cross-examination by other participants and by commission counsel. At the conclusion of the evidence there was the final summing-up argument.

At these formal hearings, it is the application of the proponent – in our case, Foothills – together with the socio-economic statements and other materials it puts in evidence which provides the primary focus for the proceedings, although it is, of course, open to other participants to lead rebuttal evidence.

There has been criticism directed at the adversarial nature of such formal hearings as unduly limiting the scope of the inquiry. Too much is made to depend, the argument runs, on the type of application and support material the proponent may choose to put forward. Yet there is a dilemma. Without a proponent with a specific application, there is a risk that the inquiry process will lack sufficient focus. It is this type of concern which appears to have played a part in the decision of the West Coast Oil Ports Inquiry to adjourn its proceedings until a specific application is made. The progress of the Hartt Inquiry in northern Ontario over the months to come may be instructive in this regard.

My only other comment with respect to the formal hearings has to do with the funding of intervenors, and I can express my views very succinctly. The intervenors whose participation was supported through public funds – whether directly from Ottawa or through funds available in the budget of our inquiry – contributed very importantly to the quality of those hearings. There is no doubt in my mind that the provision of funding for such groups is in fact in the public interest and, conversely, that failure to make support available would seriously impair the effectiveness of the process.

The formal hearings can be contrasted to the process of the informal hearings in the communities. The participants in the formal hearings had no role to play in these community hearings with the exception that one or more representatives from Foothills were present in order to respond to questions concerning the project, and the pipeline company's policies relating to it, when called upon to do so. The lawyers were not involved in these community hearings.

Testimony was not through panels, but by individuals. While some briefs were submitted, more frequently the oral presentations were based on a few handwritten notes, or on none at all. Often the personal statements were spontaneous and some, I might add, were very moving. There was no cross-examination, and there was no question of applying rules of evidence.

We made every effort to keep the proceedings as informal and relaxed as possible. The hearings were usually located in a community hall, schoolroom or other such facility. A few of the trappings of the hearing process could not be avoided. Microphones and official reporters were a necessary part of the scene, as a complete transcript was kept of the proceedings at these community hearings; the media were also present but on the whole, I think did not distract or inhibit the witnesses who came before us. Of course the intensive coverage given to our hearings in the Yukon played an important part in the consciousness-raising aspect of the exercise.

On the whole the procedures followed at the community hearings worked rather well. An adversarial format would not have been appropriate. Lawyers and formal procedures would have been out of place in this setting. It should be acknowledged, though, that there is a certain risk involved in dispensing with such testing techniques as cross-examination. Let me elaborate.

While the community hearings were obviously related to that part of our mandate which directed us to ascertain the attitudes of residents to the pipeline proposal, these meetings had an informational character as well. I have mentioned, for example, that pipeline company representatives were available to answer questions. But the pipeline company was obviously an interested party, and the answers or clarification it provided were not necessarily the same as those which would have been provided by its competitor, Canadian Arctic Gas, or one of the other participants in the formal hearings. Yet to allow cross-examination on behalf of other participants would have introduced the adversarial flavour which was considered undesirable. The Foothills representatives, I should say, were conscious of this difficulty and played a relatively passive role in the informal hearings, intervening only when invited to do so by a member of the board.

I do not mean to suggest that it was only the observations made by pipeline company representatives that might occasionally have benefitted from the additional information that could have been elicited through cross-examination. However, that particular example serves to illustrate the broader concern. To the extent that the community hearings have a role to play not only in receiving expressions of opinion but in serving as a vehicle for conveying information, it is obviously desirable that the process be such as to encourage a testing of the quality of the factual evidence and the opinion evidence being advanced. The concern in dispensing with some of the techniques available in the formal hearings, in short, is that unsubstantiated or even demonstrably incorrect propositions may be allowed to pass unchallenged. To the extent that is allowed to happen, the educative value of the process is obviously diminished.

From Impact Assessment to Regulation

I have made passing reference to the fact that the assignment of our inquiry was to report in a preliminary way on the social and economic impacts that might be expected from construction of the proposed Alaska Highway Pipeline. Our report was to be preliminary only because it was clearly understood, and so announced at the time our inquiry was established, that if the government of Canada gave approval in principle to construction of a pipeline along the Alaska Highway route, then a further inquiry would be conducted to develop a final socio-economic description of the situation upon which specific terms and conditions could be developed for the construction and operation of the pipeline. Perhaps I might comment on what we had to say about the second-stage inquiry, how we thought it could best be carried forward, and our reasoning in arriving at that conclusion.

One of the key recommendations in our report called for the establishment of a single agency to be given planning and regulatory responsibilities for engineering, social, economic, and environmental aspects of the proposed pipeline. It would be project-specific, with its mandate expiring as soon as reasonably possible after gas began to flow through the pipeline. It was intended to have authority commensurate with the very difficult problems with which it would have to deal, for there could be no question but that construction of the Alaska Highway Pipeline could bring severe dislocation to the Yukon. The agency would be engaged in crisis-management, and would have to be designed, and equipped with comprehensive powers, to act expeditiously and effectively to meet that crisis.

Earlier in this paper I made passing reference to problems which can arise in mobilizing expertise which already exists in the public service but which is distributed across various units of government. Relating that to our proposal for a single agency, perhaps I might be allowed to quote a paragraph from our report:

> "The need for an imaginative and fresh approach to the problem of regulating the project can be demonstrated by examining the complexity of the task. One federal study has identified 87 activities and legislative responsibilities belonging to nine different departments and agencies of the federal and Yukon governments that would be relevant to pipeline construction. The achievement of an acceptable degree of coordination and reconciliation among these many requirements and authorities requires a complete and fundamental reassessment of the best means of regulating a project of this magnitude."[3]

Now my purpose is not to review the mandate we proposed for the agency, or to go into the structure we recommended for it. I wish only to make clear that we viewed it as having very heavy responsibilities assigned to it.

To come back now to the question of the second-stage inquiry, it was our recommendation that this responsibility be assigned to the control agency, and in so recommending we had several considerations in mind.

We envisaged the agency being created at the same time as, or at the earliest possible moment following, a decision by the Federal Government to give approval in principle to a route through the southern Yukon. We saw it as very important that the agency be established without delay because the Yukon could be expected to begin to experience impacts from the project as soon as a firm decision to go ahead was arrived at and made public. Further, to perform its duties effectively, the agency would need as much advance planning time as possible in order to allow it to engage staff, to collect necessary base-line data, and to develop the regulatory measures that should be in place well before construction of the pipeline commences.

In such circumstances, the agency would no doubt wish to gain the benefit of much of the information and expertise that would require to be assembled by any second-stage inquiry charged with responsibility for developing the final social, economic and environmental assessments. To avoid duplication of effort and loss of time, and in order to give the agency early and direct exposure to the full range of problems and concerns, we thought it appropriate that the agency itself undertake the second-stage inquiry. The structure we proposed for the agency was designed to be compatible with this responsibility.

Now there were particular reasons which prompted the two-stage approach to the inquiries respecting the Alaska Highway Pipeline, having to do with a timetable for decision-making which Ottawa had developed for itself, and which was designed to mesh with one in Washington. But it may be that there is something to be said for a similar type of staging in other situations.

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[3] *Alaska Highway Pipeline Inquiry,* Kenneth M. Lysyk (Chairman), Minister of Supply and Services, 1977, p. 134.

In the case of a proposal for major resource development projects there may, of course, be an initial question as to whether it can be carried forward at all without creating unacceptable negative impacts. The answer to that question should become apparent in the course of a preliminary assessment, as should be a reasonably clear picture of the nature and dimensions of the problems to be dealt with and, perhaps, the type of mechanisms which are most appropriate for handling preventive and mitigative measures. For purposes of this initial process of identifying major concerns, it may be quite possible to draw certain broad conclusions without awaiting the results of all the detailed research and the precise data essential for regulatory purposes at a later stage. If that is so, then some of the considerations which prompted our recommendation for merger of the investigative and advisory functions of the inquiry with those of a regulatory body may have application in other circumstances.

In leaving the subject, perhaps you will permit me one further observation concerning the recommendations of our own inquiry. As I have mentioned – and this is very clearly stated in our report – we envisaged steps being taken by the government to establish the single regulatory and control agency, with the type of responsibilities I have outlined, more or less contemporaneously with the government's decision to give approval in principle to the Yukon route. The latter decision, as you know, was taken in the late summer and, predictably, the Yukon has begun to experience the impacts. Some Yukoners have expressed deep concern at what they see as a somewhat leisurely approach on the part of government with respect to establishing machinery and measures appropriate to the developing situation and to ensure that the impacts from the pipeline are not unnecessarily disruptive. I have no difficulty appreciating their concern about the apparent rate of progress to date.

Conclusion

In conclusion I should say that I think it is necessary to be rather cautious in extrapolating from one experience and set of circumstances to another with respect to the use of public inquiries for the specific purpose of evaluating resource development projects. In our report we stressed the dangers involved in relying upon generalizations concerning "the North" and "Northerners" for the purpose of policy-making with respect to the Yukon. In my opinion there are similar risks involved in assuming that a process which has worked reasonably well in connection with a specific project in a particular part of Canada is one appropriate for use in evaluating all resource development proposals.

I have said enough, no doubt, to make it clear that I believe hearings such as the ones we held in the Yukon can be of real assistance in the task of seeking out a basis for reconciling the interests of the majority with those of minority groups within the region of the proposed project, and for balancing regional interests and concerns with those of Canadian society as a whole.

The Berger and Lysyk Reports: Their Impacts on Northern Pipelines and Decision-Making in Northern Development*

by
John A. Gray

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For Canada, the decision on a route for the natural gas pipeline from Alaska to the lower forty-eight states, or indeed whether to choose any route across the Canadian north, has been complex. In seeking to accommodate a route and to maximize the opportunity for connecting Canadian Mackenzie Delta gas reserves to southern Canada and while attempting to minimize environmental damage, social and economic disruption to the North and to maximize benefits to Canada from transporting U.S. gas, the Canadian federal government and the several Inquiries have faced many imponderables. These have included a changing set of pipeline proposals and routes, shifting estimates of Mackenzie Delta gas reserves and southern Canadian needs, uncertainty of benefits to Canada, as well as unknown and diverse environmental, social and economic impacts of a pipeline on the North.

The sequence in the decision-making process on northern pipelines to transport American gas from Prudhoe Bay fields and Canadian gas from the Mackenzie Delta stretches back almost to the discovery of oil and gas at Prudhoe Bay on the north slope of Alaska in 1968. In 1969 two study groups, which later merged to form Canadian Arctic Gas Study Ltd., were formed to study pipelines to move Alaskan gas to the southern United States. A third group, Mountain Pacific Pipelines Ltd. (including El Paso Gas and Westcoast Transmission as partners) was formed in the same year, 1969, to study a pipeline through the southern Yukon. Although this study group later became inactive, the southern Yukon route became the "sleeper" in the sequence and in the end was chosen.

The Canadian Arctic Gas proposal for a pipeline transmitting American gas from Prudhoe Bay across the northern Yukon and up the Mackenzie Valley, "piggybacking" Canadian gas from the Mackenzie Delta, was submitted to the National Energy Board and the Minister of Indian Affairs and Northern Development on March 21, 1974. Thus began the sequence of studies and reports. The Mackenzie Valley Pipeline Inquiry (the Berger Commission) was appointed that same day "... to inquire into and report upon the terms and conditions that should be imposed in respect to any right-of-way that might be granted across Crown Lands for the purpose of the proposed Mackenzie Valley Pipeline..." (P.C. 1974-641). These were rather narrow terms of reference for what became an influential report.

Soon after that, Alberta Gas Trunk Line dropped out of the Canadian Arctic Gas Group and joined with Westcoast Transmission to form the Foothills Pipeline Group. Foothills quickly developed a proposal for a pipeline from the Mackenzie Delta, transporting Canadian gas exclusively and submitted the proposal in March of 1975. In August of 1976, Foothills submitted another proposal for a pipeline through the southern Yukon, along the Alaska Highway, to transport American gas from Prudhoe Bay to the lower forty-eight states. This eleventh hour proposal added to the complexity of the National Energy Board hearing, its report and its decision. It also sparked the other two inquiries and reports: the Alaska Highway Pipeline Inquiry (the Lysyk Inquiry), and the Alaska Highway Pipeline Environmental Assessment Panel (the Hill Inquiry) both of which were established in April, 1977 (see Figure 1 for map of proposed routes).

Over the summer of 1977 the reports came tumbling in: first on May 9, Volume One of the Berger Report, then on

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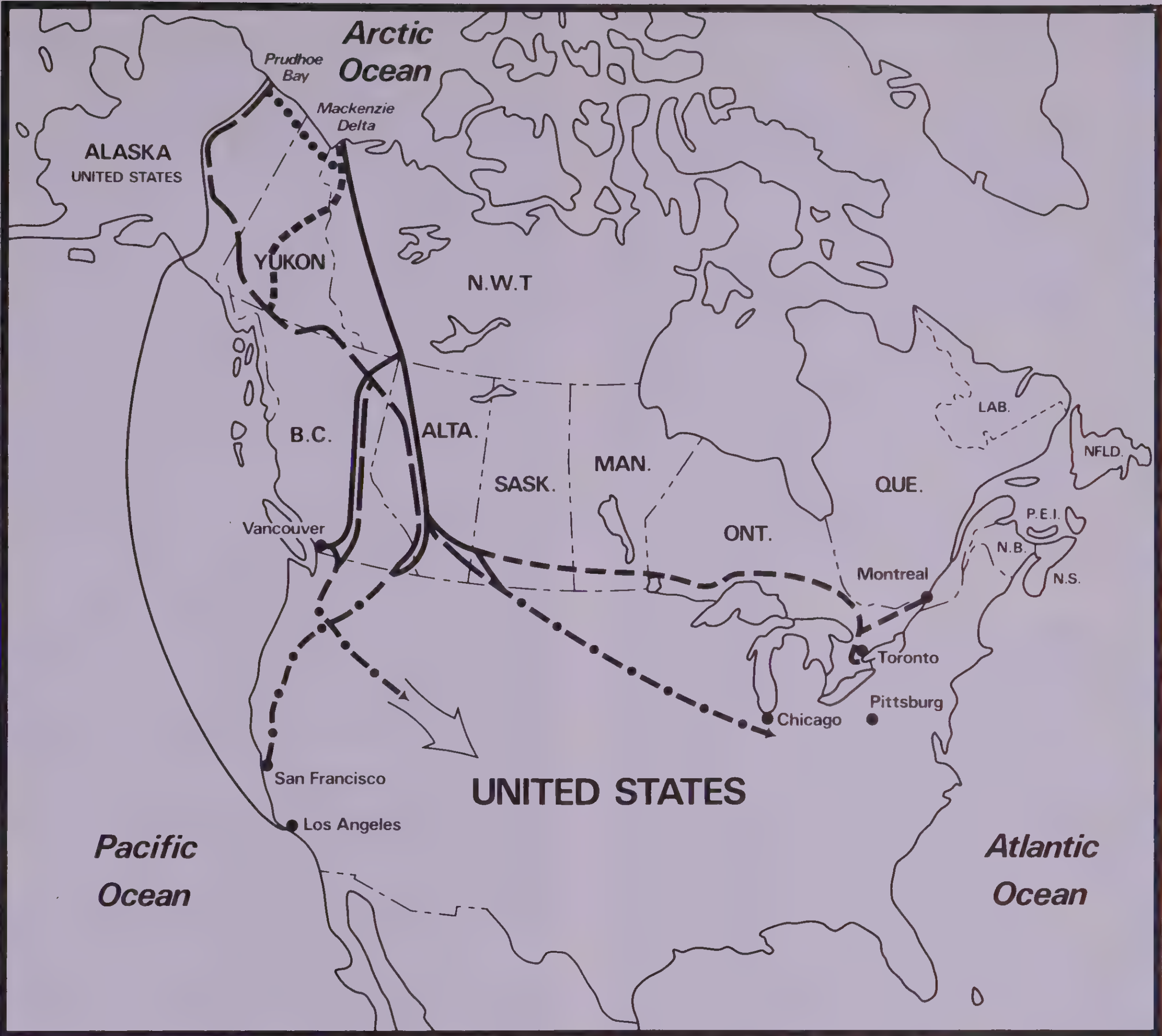
*I should like to thank Dennis DePape, Ian Gillies, Tom Henley, Kevin Johnston and Brian Katz for helpful comments on an earlier draft. However, none of them can be held responsible for what remains. The section of the paper on The Berger Report is largely drawn from John A. Gray and Patricia J. Gray, "The Berger Report: Its Impacts on Northern Pipelines and Decision-Making in Northern Development" *Canadian Public Policy – Analyse de Politique,* Vol. III, No. 4 (Autumn 1977), pp.509-15) with permission. A version of the present paper was presented at the Seventeenth Annual Meeting, Western Regional Science Association, Sacramento, California, Feb. 24-26, 1978.



Possible Pipeline Routes for Northern Gas

———	Mackenzie Valley Route (Arctic Gas or Foothills) and Connections in Canada	– – – –	TransCanada Pipelines, taking Mackenzie Delta Gas to Eastern Canada
••••••••	Prudhoe Bay to Mackenzie Delta Route (Arctic Gas)	—•—•—	Connecting Pipelines in the United States
—— ——	Alaska Highway Route (Alcan Project) and Connections in Canada	———	El Paso Route (Pipeline and Tanker System)
		▪▪▪▪▪▪	Dempster Lateral

Figure 1.

July 4, the National Energy Board Report, followed by the Hill Report on July 27, and finally the Lysyk Report on August 2. The Lysyk Report is remarkable for being completed in 105 days. A synopsis of Volume Two of the Berger Report, on terms and conditions to be applied to a Mackenzie Valley pipeline, was released July 29, so as to be available to Members of Parliament for the debate on northern pipelines in early August.[1]

The conclusion of the decision process is well known: the Canadian Federal Government opted for the southern Yukon route; the Foothills Pipeline Group had outmanouvered the influential Canadian Arctic Gas consortium.

Having chosen the Alaska Highway route over the Mackenzie Valley route – or no route – the Federal Government, in negotiating with the U.S. Government on terms and conditions to be applied to the pipeline, has given up significant potential gains and has agreed to limitations on compensation for potential damage. As a result, it is now by no means clear that the chosen route will yield net benefits to Canada, but that is a topic for another paper.

This paper will review, evaluate and compare the reports and findings of the two major inquiries established to appraise the complex social, economic and environmental impacts of the Mackenzie Valley Pipeline Inquiry (the Berger Commission) and the Alaska Highway Pipeline Inquiry (the Lysyk Inquiry). These two inquiries have played a major role not only in shaping the final decisions on the pipeline, but also in raising public consciousness about the social, economic and environmental impacts associated with northern development projects. In addition, the impact of their reports and recommendations, as well as their approach to the Inquiry are a frequent phenomenon in the Canadian parliamentary system (see preceding article).[2] They have figured prominently in the public affairs of the Country over a long period of time. Many have had a significant influence on public policy in Canada.[3] While "... they have always had real importance in providing considered advice to governments ... (in recent years, they) ... have begun to take on a new function: that of opening up issues to public discussion, of providing a forum for the exchange of ideas."[4]

The Berger Inquiry

The Mackenzie Valley Pipeline Inquiry (the Berger Royal Commission) was appointed by the Federal Government on March 21, 1974, with Mr. Justice Thomas R. Berger as sole Commissioner (P.C. 1974-641).[5] The same day, Canadian Arctic Gas Pipeline Ltd. filed its application with the National Energy Board and the Minister of Indian Affairs and Northern Development.

The Commission was instructed "... to inquire into and report upon the terms and conditions that should be imposed in respect of any right-of-way ... having regard to (a) the social, environmental and economic impact ... in the Yukon and Northwest Territory, and (b) any proposals to meet the specific environmental and social concerns set out in the *Expanded Guidelines for Northern Pipelines* as tabled in The House of Commons on June 28, 1972 by the Minister." (P.C. 1974-641). On the other hand, the mandate for an evaluation of the "social, environmental and economic impact" of the pipeline was very broad indeed. In addition, the Inquiry interpreted its mandate to be the evaluation of the impact of an energy corridor (including oil and gas pipelines; roads, airstrips and related facilities) based on the energy corridor concept contained in the *Expanded Guidelines for Northern Pipelines* specifically referred to in the terms of reference. Consequently, the Inquiry investigated the impacts not only of a large-scale frontier project, but also of an entire resource development sequence.

The Berger Inquiry hearings began with preliminary hearings, in Yellowknife, in April of 1974 and with formal hearings in March of 1975. The formal, community hearings as well as a series of southern hearings continued through to November, 1976. The Berger Inquiry was unique and innovative in several respects. The Inquiry not only held formal hearings, but also held informal community hearings in every community in The Mackenzie

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[1] The complete Volume Two of the Berger Report was released January 12, 1978.

[2] Kenneth M. Lysyk, "Public Inquiries and the Protection of the Public Interest in Resource Development Projects", IBM Distinguished Guest Lecturer Series, Natural Resource Institute, University of Manitoba, January 19, 1978.

[3] Canada, Mackenzie Valley Pipeline Inquiry, *Report: Northern Frontier, Northern Homeland, Volume Two: Terms and Conditions.* (Ottawa: Ministry of Supply and Services, 1977), Appendix 1, "The Inquiry Process", pp. 223-30.

[4] *Ibid.*, p. 223.

[5] The Berger Inquiry was paralleled by that of the National Energy Board, which began formal hearings in April, 1976. Hearings continued through to May, 1977. In one way the National Energy Board had a wider mandate, being enpowered to decide on whether or not to approve the Mackenzie Valley pipeline or any other proposed routes. However, being a regulatory agency concerned with the technical feasibility, need for, financial viability, and general public interest aspects of projects, it found itself less able to deal with the broader social, economic and environmental impacts that concerned the Berger Inquiry. Early in its report, at the beginning of the section "Reason for Decision" the National Energy Board states:

> "Never before has the Board been faced with such a complex and difficult task in making a decision on an application before it. This is not only because of the immensity of the projects ..., but also because of the magnitude of the potential socio-economic impact on the peoples of the north and the critical concerns related to the protection of the Arctic environment."

Canada, National Energy Board. *Reasons for Decision: Northern Pipelines* (Ottawa: Ministry of Supply and Services, 1977), Vol 1, p. 1-57.

Valley, The Mackenzie Delta and the Northern Yukon. This was a unique approach for Canadian inquiries.

The formal hearings, held in Yellowknife, followed the standard pattern, with sworn evidence subject to cross-examination and all parties represented by legal counsel; in order to encourage broad public participation, the community hearings departed from this formal legal framework. In place of cross-examination, representatives of Arctic Gas and Foothills were allowed to make a presentation to the Inquiry when they felt people were misinformed or mistaken. At a later stage of inquiry, hearings were held in major cities in southern Canada, from Vancouver in the west to Halifax in the east.

The inquiry was unique in that it provided funding which allowed interviewers to research and develop briefs, to analyze and respond to the multitude of government and industry studies available as cross-examinable evidence, and to participate in the hearings, as far as possible, on an equal footing with the pipeline companies. Funding was provided to native organizations, environmental groups, northern municipalities, and northern business groups.

Another innovation, as far as Canadian public inquiries are concerned, was the presentation of the arguments of Commission Counsel and Inquiry Staff in the form of a report near the close of the formal hearings. This procedure, which is followed in many inquiries of regulatory agencies in the United States, not only made the report of the Commission Counsel and Inquiry Staff publicly available, but also allowed the pipeline companies and interviewers to criticize and respond to the analysis and arguments of the Commissioner Counsel and Inquiry Staff. The Inquiry process and procedures as well as the innovative aspects mentioned above are explained and documented in Appendix 1 and 2 of Volume Two of the Report.

The Berger Report: Its Analysis and Conclusions[6]

The Berger Report was unique in the style in which it communicated the issues, analysis and findings of the Commission. The Report is written with clarity and care and is usefully illustrated with photographs, diagrams, or maps on every page. Photographs of witnesses lend credibility to the quoted testimony, while other illustrations emphasize points in the text or serve to contrast traditional ways with industrial developments. This use of illustrations helped to ensure a wider readership and discussion of the Report than is usual for the usually dull reports of most Royal Commissions.

The Report is summarized by means of a carefully worded letter of transmittal to the Minister, the Honourable Warren Allmand, is set in larger print and illustrated in colour. For readers who get no further, the letter of transmittal conveys a useful summary of the basic findings, conclusions and recommendations of the Commission.

Following the summary letter of transmittal, Chapter 1 presents a brief introduction to the North, the differing values of the North, the northern environment, and the history of northern people. Chapter 2, introduces the concept of an energy corridor involving gas and oil pipelines and related transportation facilities.

Chapter 3 summarizes the information on pipeline construction; the problem of permafrost is discussed. The Report considers the merits of a refrigerated gas line which would leave the Permafrost intact but which could result in frost heave and ice build up in unfrozen ground and at stream crossings. The proposed construction of the pipeline in winter and from snow roads is discussed. While winter construction would leave the right-of-way relatively undisturbed, the Report suggests that problems in scheduling winter construction might result in demands for a change to summer construction; this would likely result in greater environmental impact.

Environmental impacts are discussed separately for the three major areas traversed by the proposal routes: the Northern Yukon, the Mackenzie Delta and the Beaufort Sea, and the Mackenzie Valley.

The Report recommends that no pipeline or corridor be constructed in the Northern Yukon section along either of the two routes proposed. The impacts of the coastal route on the summer range and calving grounds of the Porcupine Caribou herd and on the nesting, moulting or grazing areas of ducks, geese and other birds, are identified. The report notes that the interior route would impact on the winter range and migration routes of the Porcupine Caribou herd and on the muskrat population of Old Crow Flats. As well, there would be cultural, social and economic impacts on the village of Old Crow itself. The Report proposes creation of a Wilderness Park in the Northern Yukon to protect the caribou herd and to allow the people of Old Crow to maintain the option of traditional hunting and trapping as a way of life. In addition, the Report views the Northern Yukon as the most difficult area for pipeline construction and fears winter construction proposals may have to be waived to allow summer construction; this would result in greater environmental problems.

The Report documents the impacts on the Mackenzie Delta and Beaufort Sea area of a full energy corridor; this would include the construction of a gas pipeline, further oil and gas exploration and development, gas plants and gathering systems, a possible oil pipeline, and extended drilling in the Beaufort Sea. The report characterizes the area as environmentally sensitive, with many complex food chain interrelationships. It recommends that there be no pipeline crossing of Shallow Bay which is adjacent to the Beluga whale breeding area. The report recommends the establishment of a whale sanctuary in this area, as well as the strict regulation of the location and operation of gas plants, gathering lines and oil facilities. It is also recommended that no pipeline be constructed across the Delta because of the risks involved in river crossings.

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[6] This section is largely drawn from John A. Gray and Patricia J. Gray, "The Berger Report: Its Impact on Northern Pipelines and Decision-Making on Northern Development" *Canadian Public Policy-Analyse de Politiques* Vol. III, No. 4 (Autumn 1977) pp. 509-15, with permission.

For the Mackenzie Valley route the Berger Report believes that "...no major wildlife population is threatened... and no major wilderness area would be violated..." (p. 77). Thus, "... there is no compelling environmental reason why a corridor to bring oil and gas from the Mackenzie Delta and Beaufort Sea could not be established along the Valley." (p. 77) However, the Report recommends a ten year delay and careful regulation of construction.

The cultural, economic and social impacts on the Mackenzie Valley are the subjects of three long chapters (Chapters 8, 9, and 10). Chapter 8 presents a historical summary of the impact which European and southern Canadian views have had on the native cultures of the north. The Report interprets the traditional native views of land as a renewable resource bank providing security and reserves and presents a clear summary of the now-recognized deleterious social and cultural effects of the southern educational system on native people. Berger argues that subsistence hunting and trapping are still important sources of livelihood and should remain as a part of a diverse native economy. The Report examines Fort Franklin, Colville Lake and Old Crow as examples of communities in which hunting and trapping are important sources of income and food. The Berger Report sees wage employment as making up only one part of the northern economy and takes issue with the report of Gemini North, prepared for Arctic Gas, which plays down the importance of hunting and trapping in the North.

At the beginning of the chapter on economic impacts, Berger emphasizes that "... the main point of this chapter (is the) failure so far of large-scale industrial projects to provide permanent wage employment for large numbers of native people (which) had led to expressions of indignation by government spokesmen and native people." (p. 116) "If we build a pipeline now, the native people's own land-based economy will be weakened or even destroyed, and many will be drawn into the industrial system against their will." (p. 116)

To evaluate the employment opportunities for northerners which are likely to result from a pipeline, the Report draws on the employment experiences of Fort Resolution and the Pine Point mine, and Fort Laird and the Pointed Mountain Pipeline. The experience of the construction of the Alaskan pipeline is also considered. It is concluded that only limited numbers of northerners would find jobs on the pipeline, and most would be employed in seasonal construction jobs as unskilled or semi-skilled workers. Such jobs are seen as useful only if supplementing incomes from other sources.

Drawing on the Alaskan experience, the Report sees problems of local inflation in the costs of goods and high levels of rents. Housing shortages and strains on local community budgets from rapidly increased demands for services, followed by excess capacity locally after construction are also viewed as potential problems. It is expected that the increased tax revenues to the Northwest Territories Government would be more than matched by the increased cost of health and social services necessitated by the pipeline. The report sees much of the business generated going to southern firms unless regulated by terms and conditions, and it quotes the concerns of some northern businessmen about the availability of local capital for expansion, the difficulties of expansion, and the problem of excess capacity after the construction period is over.

In Chapter 10, Berger expresses his concern: "The social impact that I foresee in the Mackenzie Valley and the Western Arctic, if we build the pipeline now, will be devastating — I use the word advisedly — and quite beyond our capacity to ameliorate in any significant way." (p. 143) He cites the experience of problems at Fort Simpson and other settlements, and describes the growing social problems of the North: crime and violence, alcohol, tuberculosis and venereal disease, and predicts that these symptoms of social disorganization will be exacerbated if the pipeline goes through. For these reasons, a ten year delay in construction is proposed. The chapter, however, ends on an optimistic note: "The process of rebuilding a strong, self-confident society in the Mackenzie Valley has begun." (p. 160)

Chapter 11 on native claims, provides a good review of the history of the differing white and native views of the treaties, as well as why native people feel the treaties have not been fully honoured. The chapter also presents a concise review of the claim demands and conditions involving land control, control of renewable resources, control of education and self government.

The Report recommends that native claims be settled before a pipeline is built, suggesting that it would become difficult or impossible to achieve a land claims settlement if a pipeline were built first. The suggestion of violence or sabotage of the pipeline captured interest in the press, but is not emphasized in the report. It is seen in the Report as one possible expression of frustration, disillusionment and social unrest that would follow a decision to build a pipeline before native land claims are settled.

The final chapter by way of epilogue rather than summary draws on a variety of quotations from witnesses and others to support Berger's contention that northern people must be given the time to settle their land claims and to shape their political and economic life in accordance with their own value systems.

The Berger Report: An Evaluation

Berger chose to evaluate the impact of a full energy corridor, so his frame of reference is the cumulative impact of an initial gas pipeline, its expansion through looping, an oil pipeline, and related roads and other facilities. The Berger Report differs from that of the National Energy Board, which chose to evaluate the impact of an initial gas pipeline only. Berger's choice of a full energy corridor is only correct, if, following an initial decision on a gas pipeline, the other developments inevitably follow.

If the sequence of construction can be stopped, if the decisions are independent, then the correct framework for evaluation is only the initial gas pipeline. As there are economies in looping an initial gas pipeline as well as in putting other pipelines along the same route, Berger's choice of the corridor seems the correct one.

In those areas where there are disputes over the impacts of the pipeline, Berger tends to go with the larger detrimental impact (or smaller beneficial impact). For this reason Berger might be accused of bias in his evaluation, yet the approach of choosing the largest possible detrimental impact (or smaller beneficial impact) may be the correct approach to decision-making in situations where there is risk or uncertainty about environmental, cultural, social and economic impacts and consequences. If these risks would be borne by individuals in the North, as indeed they would, and if the individuals involved would subjectively weigh up detrimental and beneficial impacts on them differently, then there is reason for a public inquiry to reflect these in their evaluation.[7] A further reason for differential evaluation of uncertain impacts involves the concept of "option" or "preservation" values.[8] If there is uncertainty about the future value of the northern environment, or uncertainty about the future desire for a traditional way of life; if there are no close substitutes for either, as indeed there are not; and if the pipeline or energy corridor decision is inevitable, as indeed it appears to be; then an "option" or "preservation" value from delay or from not building the pipeline can be demonstrated, and detrimental impacts should be weighted more heavily in the decision. Alternatively, these concerns for detrimental impacts are frequently reflected in "safe minimum standards."[9] This is an appropriate alternative viewpoint for public decision-making.

In evaluating the impacts in Volume One, Berger implicitly assumes that the impacts are neither ameliorated nor controlled through regulation; consequently, the impacts are evaluated at their maximum level. This might seem inconsistent with Volume Two of the Report which suggests terms, conditions, and a controlling regulatory agency to reduce or minimize negative impacts. However, unless it is clear that controls and regulations will be put in place and be effective in reducing impacts, it is appropriate to evaluate the unregulated impacts. It would have been helpful to have evaluated the impacts at both the unregulated and the regulated level in order that the benefits from regulations could be assessed.

On the other hand, Berger is incorrect in attributing all future environmental or social deterioration to the pipeline and corridor. This results from comparing the present situation in the North with that during, and after construction of the pipeline. The North is rapidly changing, and many environmental and social changes will take place in any case. It is wrong to attribute all of these to the pipeline or corridor. The comparison should be between future environmental and social conditions "with" and "without" the pipeline corridor.

Berger argues that the pipeline will have a devastating effect on the life of the native people of the North, that it will exacerbate the existing social problems, and spread them to communities as yet unaffected. In evaluating this prediction some answer is needed to the question "why has native society responded to external pressures by succumbing to them and allowed social problems to be generated?" While part of the answer to this question is given in Berger's discussion of the collapse of the fur trade and of the pervasive influence of government (p. 87), this explanation is neither conclusive, nor complete. Without a clearer understanding of the processes and linkages involved in the apparent undermining of the social and cultural life of the native peoples it is not possible to predict correctly the impact of the pipeline, nor to suggest effective controls.

Berger is optimistic about the viability of subsistence hunting and trapping in particular (and the renewable resource sector in general) and its ability to provide food and a livelihood for northern natives. This seems particularly optimistic in the face of the rapidly growing native population and the concentration of people in communities or settlements, the latter leading to concentrated pressures on the fish and game populations surrounding the settlements. Although resource management can increase the yield of fish and game and although new transportation technology allows a settlement population to harvest a wider area, there is a limit to increases made possible by these means. On top of this, the future of markets for furs is uncertain.

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[7] Kenneth J. Arrow and Robert J. Lind, "Uncertainty and the Evaluation of Public Investment Decisions" *American Economic Review* Vol. LX, No. 3 (June 1970) pp. 364-78.

[8] Allen V. Kneese and Blair T. Bower, ed., *Environmental Quality Analysis* (Baltimore: John Hopkins, 1971) John V. Krutille, Charles J. Cicchetti, A. Myrick Freeman III, Clifford S. Russell, "Observations on the Economics of Irreplaceable Assets" pp. 95-109.

[9] S. V. Ciriacy-Wantrop, *Resource Conservation: Economics and Policies* 2nd ed. (Berkeley, California: University of California Press, 1963) pp. 251-68.

Berger recommends a ten year delay to allow settlement of native land claims and preparation for a pipeline. Such a delay could also mean that no pipeline is ever built.

In Volume Two, "Terms and Conditions" released January 12, 1978, Berger sets out in detail the terms and conditions to be applied to any pipeline or energy corridor along the Mackenzie Valley. The recommendations would be equally applicable to any energy corridor such as the Alaska Highway Pipeline, the Foothills route, to other northern pipeline proposals, such as the Polar Gas pipeline from the Arctic Islands, and to other major resource developments in the North. The "Terms and Conditions" volume also sets out some specific proposals to protect the northern environment and to strengthen the renewable resource sector. Thus, the recommendations of Volume Two have broad significance.

Notwithstanding ostensively narrow terms of reference, the Berger Report represents perhaps the most comprehensive and thorough contribution to a public decision achieved in Canada. The Berger Report has played a significant role in the pipeline decision. It has also influenced both the direction of northern development and the thinking of southern Canadians on the North.

The Lysyk Inquiry

In August of 1976 Foothills (Yukon) Pipeline Company filed an application with the National Energy Board and the Minister of Indian Affairs and Northern Development for a pipeline along the Alaska Highway route through the southern Yukon, carrying Alaskan gas to American markets. A corresponding application was filed with the Federal Power Commission in the United States for the American segment. The Foothills group, comprised of Westcoast Transmission and Alberta Gas Trunk Line, had earlier submitted a proposal for a Mackenzie Valley pipeline. This was in competition with the Arctic Gas proposal, but was designed to carry Mackenzie Delta gas only. Interestingly enough, Westcoast Transmission had earlier been a partner with El Paso Natural Gas in explorations of a southern Yukon route (The Mountain Pacific Project).

The National Energy Board was faced with an alternative route late in the day and part way through its hearings. The Canadian Federal Government was faced with a problem of what to do about an evaluation of the social, economic and environmental impacts of this new route. The terms of reference of the Berger Inquiry restricted it to considering Mackenzie Valley routes. While the Government might have extended the terms of the Berger Inquiry to the Alaska Highway, it may have been alarmed at the importance and influence achieved by the Berger Inquiry; alternatively, the Government may have seen the task of an extended study of the social, economic and environmental impacts as too large and one which was likely to delay a decision. In any case, some seven months after the Foothills submission, on April 19, 1977, the Minister of Indian Affairs and Northern Development established the Alaska Highway Pipeline Inquiry (the Lysyk Inquiry) to evaluate the social and economic impact of the proposed Alaska Highway Pipeline.

On the same day the Minster of Fisheries and the Environment established a separate group, the Environmental Assessment Panel, to evaluate the environmental impact of the proposed Alaska Highway Pipeline. Consequently, responsibility for social, economic and environmental impacts was divided between two inquiries.

The Environmental Assessment Panel was comprised primarily of civil servants and was basically an "in-house" study. It held hearings in conjunction with the Lysyk Inquiry but they attracted less public attention and achieved less impact, as did its interim report, released July 28, 1977.

The Alaska Highway Pipeline Inquiry was chaired by Dean Kenneth Lysyk of the Faculty of Law, University of British Columbia as Chairman; other members were two Yukoners, Willard Phelps, nominated by the Yukon Territorial Council, and Edith Bohmer, nominated by The Council of Yukon Indians. Although the Inquiry was appointed late, was given little time to conduct its investigations, and stood in the shadow of the Berger Commission, the Inquiry produced a report of weight and substance.

The terms of reference of the Lysyk Inquiry were more specific than those of the Berger Commission, perhaps reflecting the experience of the Berger Commission in defining its terms, or the experience of the Federal Government in having to put up with Berger. The Lysyk Inquiry was directed to:

> ". . . prepare and submit to the Minister of Indian and Northern Affairs a preliminary socio-economic impact statement concerning the construction and operation of the proposed Alaska Highway gas pipeline. This statement should identify:
>
> (a) the principal socio-economic implications of the Alaska Highway proposal;
> (b) the attitude to the proposal of the inhabitants of the region it would affect;
> (c) possible deficiencies in the applications of the proponent;
> (d) possible courses of action that might be taken to meet the major concerns which are identified and to correct any major deficiencies in the application."

The Inquiry was to seek the views of communities and to hold public hearings in the Yukon. The terms restricted hearings to the Yukon, excluding southern hearings such as the Berger Commission's, and restricted the Inquiry to a study of the impacts of the proposed gas pipeline rather than the energy corridor considered by the Berger Commission. Finally, the terms of reference required the Inquiry to "... submit its report and the preliminary socio-economic impact statement . . . by August 1." – a task which it fulfilled on August 2, 1977, just 105 days after the initial appointment.

One reason the Lysyk Inquiry managed to complete a substantial report within that span of time may be that it was able to benefit from the experience of the Berger Commission. The Lysyk Inquiry also had the benefit of the experience of the Berger Commission personnel: the Commission Counsel, the Secretary to the Inquiry, three of the major consultants, one of the report editors and a number of others on the Lysyk Commission had held similar positions on the Berger Commission. This also may explain many of the similarities between the two reports.

The Lysyk Inquiry's approach and style followed that of the Berger Inquiry. Like Berger, the Lysyk Inquiry held both formal hearings and informal community hearings. Formal hearings were held in Whitehorse and informal hearings were held in Whitehorse and nearly every other Yukon community. The Lysyk Inquiry also followed the practice of the Berger Inquiry in funding public interest groups as intervenors. Due to insufficient time perhaps, there was no presentation of a Commission Counsel and Inquiry Staff reports at the formal hearings as there was with the Berger Inquiry.

The Lysyk Report: Its Analysis and Conclusions

The Lysyk Report, in communicating its conclusions and recommendations, parallels the Berger Report. It, like Berger makes use of photographs and illustrations to convey its message. The Report, opens with a letter of transmittal to the Honourable Warren Allmand, Minister of Indian Affairs and Northern Development, which summarizes the Inquiry's views, conclusions and recommendations. This provides a clear and concise perspective of the issues and of the Inquiry's views, conclusions and recommendations.

Following the letter of transmittal, Chapter 1 introduces the Inquiry, its terms of reference, the organization of formal and informal hearings and the inquiry process. Chapter 2 surveys the historical background. The Yukon's experience of previous booms and busts are discussed: The Gold Rush, the World War II construction of the Alaska Highway and the Canol Pipeline. The social and economic impact of road access on communities is emphasized. Chapter 3 reviews the pipeline proposal, emphasizing that the Report is concerned with impacts of the initial pipeline only, not those of an energy corridor or with any looping of the pipeline. Chapter 4 discusses alternative pipeline routes within the southern Yukon. Although the National Energy Board Report recommended the Dawson Diversion (Klondike Highway) route, the Lysyk Report points out that "... throughout our hearings in the Yukon communities, no one expressed a preference for the Klondike Highway route" (p. 33). The Report notes that "... to choose now a particular route through the southern Yukon would be to run the risk of selecting the wrong route. . . " (p. 34), advice the Federal Government ignored in negotiations with the United States.

Chapter 5 discusses employment prospects, job training and ways of maximizing opportunities for Yukoners. According to Foothills, pipeline construction would require a work force peaking at between 2,000 and 2,300 over about two years, with Yukoners potentially capable of filling 1,500 of those jobs that require lesser skills or qualifications. Evidence from the Alaskan experience suggests that the work force might become considerably larger and that the jobs for Yukoners might be considerably fewer. A Manpower Delivery Service is recommended to ensure that Yukoners can obtain preferential hiring, and to oversee the training for Yukon construction workers undertaken by Foothills. Training programs to ensure jobs for Yukoners in pipeline operations and maintenance is also recommended. The Report recommends that Foothills bear the cost of operation of the Manpower Delivery Service and training programs.

Chapter 6 deals with the economic impacts and recommends controls on in-migration, a major concern in Alaska. During construction of the Alaska oil pipeline, migration to Alaska of 80,000 to 100,000 persons caused severe social and economic problems in a region with a base population of 330,000. The base population of the Yukon is 21,800. "The Alaska experience demonstrated that unemployment alone did not deter in-migration." (p. 59) "Workers eager to earn high wages will regard the situation as a lottery. . . ." (p. 59)

Local inflation within the Yukon is seen as a major impact. The concern of the Inquiry Report is with the distributional impact:

> "For highly paid predominantly in-migrant construction workers, inflation poses no particular problem. For Yukoners who are not employed on the pipeline, and particularly for persons living on fixed incomes or whose wages are not increased as a consequence of the project, this inflation will seriously erode their ability to maintain their customary standard of living." (p. 60)

Again, the Alaskan experience is drawn upon. During pipeline construction "... the rates for almost 40 percent of the labour force (in Alaska) did not rise as rapidly as the rate of inflation" (p. 63). The Lysyk Report is also concerned with pensioners and others living on fixed incomes, and with those who live by means of a mixed or a land-based economy.

The Report recommends compensation in the form of supplementary payments to Yukoners receiving old age pensions, social assistance and unemployment insurance for those who suffer inflation and do not participate in the benefits of construction. These supplements would be tied to the inflation differential between the Yukon and southern Canada. Compensation and the supplements would be paid out of tax revenues generated by the project. Lysyk also recommends rent controls and price control of certain staple commodities and services.

Chapter 6 also discusses the impact of pipeline construction on the mining, tourism, transportation, retail trade, construction and housing sectors of the present Yukon economy, as well as on the land-based and mixed economy (native and white trapping and hunting subsistence economy).

The expected increase in demand for government expenditures for health, social services and judicial services concerned the Inquiry as did the demands on Yukon communities for expansion of municipal services to accommodate increased population and housing. The mismatch of revenues and expenditures are seen by the Report as particular problems.

Given the high cost and price of the gas, pipeline benefits of gas supply to Yukon communities are seen as less than dramatic. Benefits of electricity supply to the Yukon from the possible electrification of the pipeline are downplayed.

Chapter 7, "Social Impacts" opens with a discussion of the diversity among Yukon communities in size and ethnic composition and a discussion of the diversity of attitudes toward development. The experience of Indians and of Native communities with past developments is highlighted by a number of forceful quotations from testimony at community hearings.

The social impact of the pipeline is again assessed, drawing on the Alaskan experience. Impacts on the land-based (hunting and trapping) subsistence economy, on demands for health facilities, on foster homes, on day-care services, and on schools and on housing are examined. Concern is expressed about pipeline impact on the socio-legal services as a result of alochol problems and crime (already four times the national average.) Foothill's proposal for construction camps isolated from communities (like Caribbean holiday resorts!) is mentioned.

The Report concludes "... that the pipeline proposed by Foothills would have a substantial negative impact on Yukon society". (p. 101). It recommends that Yukoners" ... be compensated for any damages that can reasonably be traced to the construction and operation of the pipeline ... " (p. 101), but it does not spell out how, nor does it say who should pay, although elsewhere it suggests that damages and compensation be directly tied to taxes on the pipeline (p. xii). In respect to " ... unspecified damage, where the quantifying of losses is difficult ..." (p. 101), the Report proposes funding of the Yukon Heritage Fund to be used for general compensation to Yukoners through community investments, thereby improving the quality of life. To assess social and economic impacts, the Report recommends development of a research program to provide a data base and the establishment of an independent Yukon Impact Information Centre.

The Yukon Indian Land Claims is the subject of Chapter 8. The history of the land claim and negotiations is reviewed. The Alaskan experience of hard feelings over the U.S. Government's withdrawal of lands prior to Native land selection is mentioned. The Lysyk Inquiry recommends a continuation of the present land freeze until 1980, unless land selection under the land claim is completed sooner; the Inquiry also recommends early land selection. It recommends an immediate payment of $50 million toward the land claim, the interest to be used for projects to begin Indian community adjustment and development, so that they would be better prepared for a pipeline. Finally it recommends that pipeline construction not start before August 1, 1981.

The Report does not endorse a Dempster Lateral. It suggests delay and further study, pointing out that there does not yet appear to be sufficient gas discovered in the Mackenzie Delta. The impact of a Dempster Lateral on the Porcupine Caribou herd and the consequent social impact of the village of Old Crow is underscored.

Chapter 10, "Planning and Regulation" recommends that " ... the government address itself to the matter of devising an appropriate regulatory structure, hereafter called the Agency, which will reflect the concerns expressed in this report..." (p. 133). This recommendation of an agency follows that of the Berger Report but goes beyond that envisaged in the National Energy Board's Report for a "Monitoring Agency."

The Lysyk Report recommends a single, project-specific agency to control pipeline construction, supervise the Manpower Delivery Service, approve pipeline design, approve construction, and review policies to limit in-migration. The Agency would, in addition, take over the second stage of the Inquiry. Participation of Yukoners at all levels of the Agency is recommended. The Agency would fund interest groups to allow them to investigate and respond to social and economic impacts. The Report however recommends "... that the Applicant not be required to fund directly the cost of the Agency." (p. 142), but leaves open the possibility of indirect funding from Foothills.

In the final Chapter, dealing with "Compensation", the Inquiry "... proposes that a more equitable distribution of burdens and benefits be achieved by compensating Yukoners through a Yukon Heritage Fund" (p. 149); this recommendation reflects the Inquiry's concern for the distributional implications of the pipeline and the "... substantial negative impact on the quality of life and on the natural environment of the Yukon." (p. 149) Compensation is also proposed because "... the Yukon is being asked to provide **the asset of its location** (emphasis added), and its social and administrative infrastructure..." (p. 149).

In addition to this $200 million from Foothills ($25 million per year for eight years) the Heritage Fund would receive 50 per cent of property tax revenues on the pipeline. The Report points out that:

> "We have not assigned liability to the Applicant for every undesirable consequence of the project. For example, we have not suggested that the Applicant should assist persons on fixed incomes, who will be hurt by the inflation that the project will induce." (p. 152).

The Report suggests that income from the Heritage Fund be allocated to communities and to special projects, and perhaps be used to fund the Yukon Impact Information Centre. Funds would be allocated by a two tier organization responsive to the views of Yukoners, an overall board of directors and decentralized boards in each Yukon community. The Report firmly rejects equity participation in the pipeline as a means of compensating Yukoners and rejects Yukon Government equity participation in the pipeline. Such participation is seen as a "conflict of interests."

The Lysyk Report: Evaluation and Comparison with Berger

Operating within the framework of somewhat restrictive (in comparison to Berger's terms of reference) terms of reference, the Lysyk Inquiry adopted the goal of maximizing the net gains to Yukoners and the Yukon as a whole, that is, maximizing the gains to and minimizing the adverse impacts of the pipeline on the Yukon and Yukoners. By doing this, the Inquiry was inevitably drawn toward comprising the interests of some groups of Yukoners. Native groups in particular, are compromised. Certainly they and the Federal Government are being pushed to settle and implement the land claim quickly.

To achieve net profits for the Yukon, the Lysyk Report puts emphasis on a three-pronged set of recommendations: first, social and economic controls and a Pipeline Control Agency to minimize the social and economic impacts of the pipeline; second, the application of the "user pay" approach under which Foothills would be responsible for the social and economic costs of the pipeline; and third, payments to Yukoners, to compensate for the adverse effects of the pipeline, to redress adverse distributional impacts and maximize benefits to the Yukon and Yukoners.

The recommendations on social and economic controls, on in-migration, manpower delivery, jobs for Yukoners, rents and housing, inflation and on the location of construction camps, would not only minimize the adverse effects and maximize benefits to Yukoners, but also minimize the adverse distributional impact of the project.

If controls and the Pipeline Control Agency are to be effective they will have to be both carefully designed and accepted by Yukoners. The recommendations imply a level of control approaching that of a wartime economy. The spirit of the gold rush still lives in the Yukon and it is not clear that such controls would be accepted even if Yukoners as a whole would benefit thereby. In addition, controls would curb the gains of some Yukoners in order to reduce the adverse effects on others, yet without controls, the adverse impact of the pipeline on the Yukon is likely to be substantially greater.

In order that benefits to Yukoners are maximized and costs, both social and economic, to Yukoners are minimized, the Lysyk Report recommends that costs attributable to the pipeline be added to the cost of the pipeline. This would tend to increase pipeline rates and this increase would be passed on to gas consumers. This perhaps explains the emphasis in the Report on compensation, on the Yukon Heritage Fund, and on property taxation of the pipeline.

Should compensation be required to be paid by Foothills for damages, then in order to reduce its compensation payments, Foothills may be encouraged to change or modify its behaviour, taking into account the externalities imposed on others. Thus, the imposition of compensation payments could lead to improved, or more efficient, resource allocation.

The Report states: "We believe that the anticipated distribution of benefits and burdens is unfair and unacceptable to Yukoners, and that strong steps should be taken to redress this imbalance." (p. ix). Compensation may be a means whereby any imbalance in the distribution of incomes caused by the pipeline is adjusted. Finally, should the compensation payments be so large as to make the project uneconomic (the benefits exceeding the costs), then welfare economics would suggest that it would be more efficient in terms of resource allocation if the pipeline were not built. In the words of the Lysyk Report, "... if the costs to the Yukon and to Canada are very much in excess of the cost that makes a Canadian route competitive, then that fact by itself should support an argument for El Paso's route." (p. xii).

The Control Agency and compensation arrangements can be viewed as means to deal with the externalities of the pipeline, to achieve improved resource allocation and at least to minimize income distributional impacts. Viewed in this way the Lysyk Report is seen as more of an applied economic document than might be suspected, and the Inquiry members more in the way of applied economists than one might suspect.

Postscript

The influence of the Berger and Lysyk Inquiries and of their reports is likely to be significant, but perhaps it is too early to judge. Certainly the Berger Report was instrumental in the choice of the Alaska Highway route over the Mackenzie Valley route. The Lysyk Inquiry has been less successful. The thrust of the recommendations on compensation and the "user pay" approach were substantially undercut in negotiations with the United States over the pipeline. Just recently, on February 3, 1978, a bill to establish the Northern Pipeline Agency was introduced into the House of Commons. It remains to be seen how far controls will be taken and beyond that how effective they will be.

Likewise the influence of the Berger and Lysyk Inquiries on future resource projects remains to be seen. Already three other resource development inquiries have been established: the Hartt Inquiry on Ontario's Northern environment, the West Coast Oil Ports Inquiry, and the Bayda Inquiry into expansion of uranium mining in Saskatchewan.

Energy and Canadian-American Relations

by

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Introduction

The year 1973 was a year in which all nations' perceptions of their energy situations changed. The present era is a time of transition for the world, from a time of cheap, abundant fuel to a time of expensive fuel in short supply. The Arab embargo prompted many nations to new examinations of their energy needs and sources in an effort to deal with the world's new realities. Readily available energy at reasonable prices can no longer be taken for granted and the tremendous economic growth this energy allowed may not continue as predicted.

The situation in North America is not as bleak as in many areas such as Europe and Japan. Both Canada and the United States have substantial domestic reserves of oil, gas, hydro, coal, uranium, and renewable energy sources. The limiting factors in the development of these reserves to date have been technological and economic. In planning for the future, both nations are looking to overcome these limitations in order to meet their needs for energy.

Energy plays a central role in Canadian-American relations. There is a substantial trade in energy and a great many joint projects between the two nations. Oil and gas are exported from Canada in quantities amounting to almost half of Canadian domestic production, coal is exported to Canada from the U.S. to supply almost half of Canada's needs, and electricity, oil and gas are swapped between the two nations in time of peak needs or shortages. Excess electricity is sent to the U.S. in the summer and to Canada in the winter to ease seasonal fluctuations in demand, and recently in the winter of 1976, Canada supplied 15 billion cubic feet of gas to ease the shortage in the eastern U.S. Pipelines cross the soil of both nations and electrical interconnections facilitate transfers across the border.

This situation of interdependence in energy has gradually evolved since the end of World War II. However, since the early 1970s, energy relations have changed dramatically because of new realities and new perceptions on both sides of the border. Policy-makers in the United States in the 1960s called for the integration of Canadian and American energy sources in a plan known as "continental energy policy". Continentalism would mean the erasure of the international border for energy trade, with all North American energy reserves to be used by all North Americans equally. This plan was at first endorsed by Canada and then vehemently rejected when it began to be perceived that this policy might more benefit the United States at the expense of Canadian economic independence. Changing perceptions in Canada, in the form of rising nationalist feelings and suspicion of American intentions for her northern neighbor, were responsible for the rejection of continentalism as a package deal. Canada has opted instead for a case-by-case look at resource deals with the U.S.

Despite Canada's rhetorical rejection of continental energy policy, many Canadians feel in reality there is so much integration between the two countries that it is merely continentalism under another name. However, since 1973, Canada has taken several policy initiatives which run counter to any charge of continental sharing of energy. Exports of oil and gas to the U.S. are being phased out (though the situation with gas might be reversed). Americans are forced to pay world prices for Canadian energy while Canadians do not, foreign investors no longer have a "free hand" in Canada, and several energy projects more advantageous to the United States than Canada have been rejected. Canada is attempting to achieve energy self-reliance and, to do so, can no longer try to help solve America's problems by giving her resources away. The U.S. is well aware of the fact that Canada has supply problems of her own and lacks the reserves to ease any long-term supply problems in the U. S. But a beneficial situation is hard to give up and many Americans still look to Canada, particularly the Arctic, for future supplies.

This paper studies the evolution of Canadian-American energy relations in recent years. The point of view taken is one of the need to present Canada's energy situation in the context of bilateral relations, to facilitate understanding of the current status of relations. The focus is on oil and natural gas because these are the two most important sources of energy in both nations and in trade between them, and because policies involving these two resources have changed more than for any others, leading to a great deal of misunderstanding and controversy.

First, a short overview of Canadian-American relations is presented to illustrate the general pattern of relations and how energy fits in. Next, a short history of policies affecting oil and gas supply, demand and trade is given, followed finally by a review of present policies and related issues. This is not an exhaustive study of the subject, for there are many areas not touched upon. However, an effort has been made to present the major governmental policies enacted by Canada, and to a lesser extent by the U.S., to deal with energy problems.

The Nature of Interdependence

The modern relationship between the United States and Canada is one of interdependence. Since the Second World War, the two nations have grown ever closer militarily, economically and culturally. This relationship, however, is "inevitably (one) of profoundly unequal dependence; the impact of the United States on Canada is far greater than Canada's impact on the United States."[1] The reasons for the inequity are obvious when the power, population and economy of one are compared with those of the other.

In terms of power, the U.S. is not only the most powerful nation in the world, but her sense of destiny provokes the use of her tremendous influence on other nations. Canada lacks both the huge military establishment and sense of destiny that fundamentally characterizes U.S. foreign policy. Although both survived World War II far better off than other industrial nation-states, the U.S. became the leader of the first world in the post-era war. The population differential between the two is tenfold: there are more than 215 million Americans and only 22 million Canadians. Economically, the U.S. has a large and highly diversified secondary sector and a growing service industry, while Canada's economy is more of a primary nature. The secondary and service sectors are growing, but Canada still retains what is primarily a resource-based economy.

Much of the reason why Canada's manufacturing industry has remained small and non-diversified lies in trade relations with the U.S. Each nation is the other's major trading partner and each accounts for the largest share (on a per nation basis) of foreign investment in the other, although in both cases the U.S. accounts for a larger amount of the total than does Canada. "On the economic side, 58 percent of the manufacturing sector is in foreign hands as are 61 of the largest 102 corporations in the manufacturing, resources and utility fields. Seventy-five percent of the capital employed in (Canadian) oil and natural gas industry is foreign controlled. . . ."[2] In the petroleum industry, 91 percent of total assets and 95 percent of sales are foreign controlled. All of the totally integrated firms, which control 51 percent of total industry assets, are non-Canadian.[3] Twenty percent of U.S. overseas investment is made annually in Canada, accounting for 70 percent of direct foreign investment in Canada. Although actions have been taken to reduce the amount of foreign investment in Canada, little change in this situation has yet occurred.

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[1] Department of External Affairs, "Canada-U.S. Relations: Options for the Future", *International Perspectives,* Autumn, 1972 (Ottawa: Information Canada, 1972).

[2] Abraham Rotstein, "Canada: The New Nationalism", Foreign Affairs, Vol. 55, No. 1, October, 1976, p. 1.

[3] Department of Energy, Mines and Resources, *An Energy Policy for Canada: Phase I,* (Ottawa: Information Canada, 1973).

The development of the Canadian economy in some areas was largely financed with U.S. dollars. This is especially true for energy (oil and gas) development. Substantial quantities of oil were discovered in Alberta in 1947 and the development of this resource could not be met with Canadian capital alone. It is said by some Albertans that U.S. bankers (largely New York) showed faith and moved into ventures where more conservative eastern Canadian bankers feared to tread, thus the entry of U.S. investment into Alberta. Furthermore, through Canadian subsidiaries of American oil companies, the oil fields produced large quantities of oil – amounts too large to be developed economically and consumed wholly within Canada. Increasing economies of scale necessitated a larger market than Canada could provide. The willingness of American investors to put their dollars into western Canadian oil and gas when eastern Canadians would not, is said to be one of the causes of such strong resentment in Alberta toward eastern Canada in general and Ontario in particular.

At this time, and up until the early 1970's, oil from western Canada (from Alberta primarily, but also from Saskatchewan and British Columbia) was not economically competitive with that imported into eastern Canada from the Middle East and Venezuela, mainly because of transportation costs. So, from the beginning, about one-half of western Canadian oil production was exported to the western part of the United States (the "northern tier") where it was refined for use as fuel or in petrochemical manufacture.

The situation continued through the 1950s as expansion took place. American-financed pipelines were built linking the producing provinces with Ontario and the U.S. midwest and Pacific northwest. Pipelines were not economically feasible when built without the large U.S. market to supply.[4] The Trans-Canada Pipeline, built totally within Canada in 1956, was heavily financed by the federal government.

There were liberal trade policies for imports of unrefined oil into the U.S., but much greater restrictions on imports of refined fuels and petrochemical products. This led to the anomalous situation of Canadians importing petrochemicals from the U.S. which had been manufactured with Canadian oil. However, in an era of cheap oil with American corporations controlling the market, this was the most economically feasible pattern, much more so than would have been the development of a large Canadian petrochemical industry, desirable as this might have been from other standpoints. In this way, the primary sector was encouraged at the expense of greater diversification, and needed security of markets was provided.

During this time, there was little concern in Canada over increasing dependence on the U.S., and support was voiced for most American policies and actions. This acquiescence made possible increasing American investment in all apsects of the Canadian economy and increasing American influence on Canadian life. This latter is exemplified by the greater distributuion of industrial and cultural goods from the U.S. to all parts of Canada. Manufactured items (often made with Canadian raw materials), commercial products, books, magazines, films and television all flowed north across the border in quantities and at prices that outcompeted and thus, stunted the growth of those produced in Canada. The reverse flow was primarily of raw materials – minerals, timber and pulp, and oil and gas.

A most important point to keep in mind is the effect of the size differential – although 45 percent of Canadian energy production went to the U.S., this accounted for only 5 percent of U.S. energy consumption. The influence of the U.S. on Canada was never an intentional attempt at subordination, but merely a natural diffusion of money and products from the larger and more concentrated economy into the smaller.

The influence of American multinational corporations has spread to Canada and throughout the world. These entities are a natural extension of American free enterprise philosophy and, as such, their actions are only minimally controlled by the U.S. government. These powerful multinationals are the focal point in Canadian-American economic relations. They are the major controllers of most of the oil and gas industry in Canada. Thus, profits flow out of, and policy decisions flow into, Canada, making this important sector of the economy dependent on foreign control. As a result of this situation, specific Canadian needs in such areas as employment are not given sufficient attention and Canadian resentment over insensitive outside forces dictating their economy is perpetuated.

Canada's New International Role

The decade of the 1960s witnessed Canada's coming of age. There was a new awakening of national consciousness which gradually led to substantial changes in domestic concerns and goals and consequently, to changes in foreign policy, especially as it relates to the United States. No beginning date may be placed on this evolution of nationalism and no specific event precipitated it.

At this time, the international community and Canada's role in it were changing in many ways. There was a strengthening of Canada's economic position, particularly vis-a-vis the U.S., with a positive balance of payments position and a rise in the value of the Canadian dollar, while, simultaneously, the U.S. position declined. Canadian exports to the U.S. changed toward a greater amount of manufactured products, which led to a "reversed direction of net bilateral merchandise trade."[5] Also at this time, with the approaching economic consolidation of Europe, Canada's freemarket access was in obvious danger of decline, as was her preferential position in Britain. Militarily, Canada played the role of international peacekeeper in a bipolar world. With the development of long-range weapons capability by the U.S., military presence in Canada was no longer deemed an essential factor in U.S. defense strategy.

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[4] Carl Nickel, "Statement", in J. Alex Murray, Ed., *Seminar* in Canadian-American Relations: North American Energy in Perspective, (Windsor: University of Windsor Press, 1974).

Over a period of years, these changes (*inter alia*) led to new perceptions in Canada of what Canada's role was, and should be, in the world. The Centennial spurred an assessment of Canada's goals and resulted in a heightened sense of national identity (and in a felt need for a unique one) for many Canadians.[6]

This identity is at least partly characterized by anxiety about the United States. The substantial amount of U.S. investment in Canada, particularly in natural resources (and the resultant control thereof), and the calls for "continentalism" in the U.S., created grave fears about increasing American domination of the Canadian economy. Increasing exposure to American culture via the ubiquitous American media created fears of the suffocation of Canadian culture. Concern over closer ties with the U.S. led to an awareness that although ties are beneficial to Canada, a conscious effort at control was needed or Canadian sovereignty, independence and cultural identity could be impaired.

After his election in 1968, Prime Minister Trudeau called for a reappraisal of foreign policy based on a changing world and Canada's potential in it. Trudeau envisioned several innovations in Canadian foreign policy which are reflective of the changing perceptions discussed above. At the core of these new objectives is the need to make foreign policy an overseas extension of domestic policy (i.e., national goals should define foreign policy goals rather than vice versa). The objectives include the need to diversify international ties in order to move away from U.S. dominance, the need to subordinate military policy to foreign policy, the need for more selectivity in foreign endeavors.

In evaluating policy toward the U.S., the Government looked at three options available to them. Canada could retain the status quo, could undertake closer integration with the U.S., or could move away from U.S. domination. The so-called "third option" was chosen as the course of most long-term benefit to Canada. The goal in moving away from U.S. dominance is to strengthen the economy and cultural identity of Canadians so as to reduce Canada's vulnerability.

> "The basic aim of the third option would be, over time, to lessen the vulnerability of the Canadian economy to external factors, including, in particular, the impact of the United States and, in the process, to strengthen our capacity to advance basic Canadian goals and develop a more confident sense of national identity."[7]

By adopting the third option, Canada recognized the need to make the economy more responsive to Canadian needs. The policy is not intended to drastically alter bilateral relations, but to reduce the trend toward ever greater integration with the U.S. Canada accepts the fact that her relationship with the U.S. has been beneficial in many ways, particularly economically, and wants it to continue to be beneficial. To have a mutually beneficial relationship, Canadians feel they must have a greater degree of independence from the U.S. and more control over their economic and cultural policies.

This new outlook is gradually helping to change the direction of Canadian-American relations. The changes are subtle, but important ones for bilateral relations. Many policies in the 1970s reflect this change in attitude toward the U.S., as can be seen in the discussion of energy policies which follows.

Evolution of Canadian Oil and Gas Pricing Policy

1973 marked a year of abrupt change for the world energy picture. From the end of World War II until this year, energy consumption increased tremendously. Oil was the cheapest, most abundant and most versatile energy source and it soon replaced coal as the predominant source in the industrialized world. From 1963 to 1973, annual worldwide growth in oil consumption averaged 7.7 percent (5.8 percent in Canada, 4.7 percent in the U.S.) and by 1973, oil supplied 45 percent of global energy demand.[8]

The abundance and cheapness of Middle Eastern oil led to this tremendous growth rate and also stifled the development and use of more expensive reserves and sources of energy: "The low price and ready availability of international oil production constrained the degree to which the prices of other energy forms could increase in a competitive market, and energy prices, relative to the prices of other goods and services, declined continuously through the decade of the 1960s."[9] Post-war technological development was accelerated by this decline in the real price of oil. North American economic growth was tremendous, as was that in the reconstructed economies of western Europe and Japan.

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[5] Canadian-American Committee, The New Environment in Canadian-American Relations, (Montreal and Washington: Canadian-American Committee, 1972), p. 26.

[6] *Interview* with Patricia Lortie, Department of External Affairs, June 21, 1977, Ottawa.

[7] Department of Energy, Mines and Resources, *An Energy Strategy for Canada: Policies for Self-Reliance* (Ottawa: Supply and Services Canada, 1976), p. 8.

[8] *Ibid.*

[9] Department of Energy, Mines and Resources, *An Energy Strategy for Canada: Policies for Self-Reliance* (Ottawa: Supply and Services Canada, 1976) p. 8.

In both Canada and the U.S., growth in energy demand was in part the result of government policies. The Canadian Government, under the National Oil Policy of 1961, guaranteed a market and a price for domestically-produced oil. Canada was divided into two areas by the "Ottawa Valley Line". The area west of the Ottawa Valley (WOV) would be supplied by domestic production and the area east of the line (EOV) would be supplied by imports.

In addition, "prior to 1972, the taxation policies of the federal government offered substantial incentives to the petroleum industry in Canada. The effect of these measures was such that by 1972 only a small number of producers had paid any federal tax at all."[10] The federal corporate income tax laws allowed the deduction of royalty, bonus and lease payments made to provincial governments, with the result that between 1947 and 1972, less than $500 million[11] was the total amount of income tax which accrued to the federal government from the petroleum industry. Other aspects of the preferential treatment the producers received were an **automatic** depletion allowance of one-third of taxable production income, deductibility of all exploration and development expenses, and a three-year tax break on revenues from new finds.[12] These incentives were designed to stimulate the development and expansion of the Canadian petroleum industry, and indeed this resulted.

By 1971, "it was becoming apparent that the industry had matured to the point where it could continue to grow and develop with a lesser degree of federal tax incentives."[13] The federal law was changed, replacing automatic depletion with an earned depletion formula allowing deduction of one-third of exploration expenditures, designed to give an incentive for exploration and development only and to increase federal tax revenues.

On January 1, 1973, the Mineral Taxation Act of Alberta came into force, a significant event since Alberta produces most of Canada's oil and gas. This law raised the provincial royalty on oil and natural gas and established lower rates for new oil, incentives for exploration and a new tax on energy reserves. Alberta again raised royalty rates on oil and gas to take advantage of the increases in the wellhead prices in April of that year. Another rate increase by the three producing provinces (Alberta, Saskatchewan, British Columbia) in 1974 was protested not only by the industry but also by the federal government. These increases had resulted in erosion of the federal tax base, so in March, 1975, the government approved new tax regulations to restore its revenue base. These regulations included a speed-up in the replacement of automatic depletion with a lower ceiling on deductions, an increase in the tax rate on resource production profits and, most importantly, the abolition of deductions for royalty payments to provinces.

Both the provinces and the petroleum industry were greatly upset by these regulations. According to industry representatives, these policies were "insufficient to provide the incentive and cash flow for the volume of exploration and development that would be required in future years."[14] Several U.S. parent companies of Canadian subsidiary oil companies threatened to withdraw investment from Canadian projects and to do no further exploratory activities. The provinces reacted quickly to this federal showdown. Alberta (followed by Saskatchewan and British Columbia) changed its royalty and taxation policies to refund any additional federal tax to the companies, to increase drilling subsidies, to increase the "select price" for oil (i.e., the price above which royalties are paid), to reduce the royalty rate on gas, and to incrementally reduce the royalty rate on oil as the price increases above $6.50 per barrel.

The provinces reacted as they did because they did not want to discourage investment in resource development, the principal industry in the provinces, particularly Alberta. The federal government had tried to regain a substantial portion of its revenue in order to distribute among all Canadians the benefits of the rising price of oil.

> "The appropriate distribution of the 'public' share of revenues accruing from unanticipated price changes in a difficult and contentious issue. The producing provinces maintain that they are entitled to the bulk of such revenues in recognition of their ownership rights over a finite and depleting resource. The federal government has never disputed this claim but has consistently maintained that a reasonable share – certainly more than 9 percent – of the revenue generated by a healthy and mature petroleum industry should accrue to all Canadians, particularly in view of the incentives that had been given in the past."[15]

This issue is a continuing one in federal-provincial relations which directly affects energy development programs. While the governments battle over how much their percentage of profits will be, the industry claims it needs a higher return to undertake high-risk exploration and development ventures. At present, the provinces get 43 percent, the industry 40 percent, and Ottawa 17 percent of petroleum industry production profits. The matter is continuously debated, but with no solution satisfactory to all yet found.

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[10] *Energy Strategy, op. cit.*, p. 32.

[11] Government of Canada, "Background Paper", *Federal-Provincial Conference of First Ministers, April 9-10, 1975* (Ottawa, 1975).

[12] *Ibid.*

[13] *Energy Strategy, op. cit.*, p. 32.

[14] First Ministers' Conference, "Background Paper", *op. cit.*, p. 60.

[15] *Energy Strategy, op. cit.*, p. 33.

Evolution of U. S. Oil and Gas Pricing Policy

The U.S. Government also had policies which stimulated energy consumption and in turn economic growth. Every aspect of life in post-war America revolved around convenience devices powered by readily available fuel. Since 1959, the Government kept quotas on imports of crude oil into the U.S. and kept prices of oil regulated at non-market levels to ensure continued domestic production. By so doing, U.S. consumers were denied access to inexpensive Middle Eastern oil, except that provided by imports. Government policy stressed the maximization of domestic production for domestic consumption. The major American oil companies, in search of greater profit, expanded their operations to the Arab nations, Venezuela and Canada, and through ever-greater integration controlled most of the world's oil from the ground to its final destination.

The price of oil was less than $2 per barrel and was kept under-priced throughout the 1960s. In the case of natural gas, the price was also kept low in order to be competitive with oil. In both cases, the prices did not reflect the marginal replacement costs and thus are termed "underpriced". The price of gas was much less than that of oil on a BTU equivalency basis.

This situation led to a tripling of demand for natural gas in the U.S. during the 1960's. Canadian demand also multiplied, but production far surpassed the amount to be consumed domestically. Thus, the excess production (averaging 45 percent) was exported to the U.S. to fulfill the desires of American consumers. However, the regulated price of gas in the U.S. was less than the Canadian (delivered) market price, so many American consumers paid less for Canadian gas than Canadians did. The artifically low price for gas in the U.S. market was responsible for keeping Canadian gas prices (which were unregulated) low, since almost half of Canadian production was sold in the U.S.

In 1970, on the basis of exaggerated reserve estimates predicting 392 years of plentiful gas supply, the National Energy Board and the Cabinet authorized the largest gas export contract ever granted. 6.3 trillion cubic feet were licensed for export to the U.S. over a 20-year period. The figures on the reserve estimates were supplied by the Canadian Petroleum Association ("despite its name the Association consists largely of the major American Oil companies which do over 90 percent of the production and refining")[16] and have since proved wholly false. The granting of this license has, since 1970, provoked much protest within Canada because the amount was so high, the price so low and the figures upon which it was based were supplied by the very companies who gained from it. Faced with the growing realization since 1970 that gas could be in short supply in Canada within twenty years and with this embarrassing "sell-out", the NEB has consistently refused to authorize any further export licenses, although the Board continues to give consideration to all proposed.

During the time of U.,S. oil import quotas, Canada's annual additions to oil reserves were greater than annual production. In the early 1970s, exploratory success and thus reserve additions began declining simultaneously with an easing of U. S. quotas and the resultant increase in demand for Canadian oil.

U.S. oil production has been declining since 1970, while demand has continued to increase. In 1971 and 1972, the Government relaxed the import restrictions on crude oil, and the pressure for Canadian supplies intensified. Canadian oil imports to the U.S. increased 83 percent between 1970 and 1973 and this created widespread fear that there would not be an adequate supply to serve Canadian needs. So, "early in 1973 (March 1), because of an unprecedented surge in demand for Canadian feedstocks by U.S. refiners, it became necessary for the (National Energy) Board to license exports to ensure that the requirements of Canadian refiners could be met."[17]

Because of increasing exports, the NEB passed amendments to this policy to include petroleum products. On June 16, 1973, light oils (gasoline and middle distillates) were placed under export control and on October 15 heavy oil was treated likewise.

The reasoning behind controls of this nature is that it is not in the long-run interest of Canada to halt production of petroleum when a shortage appears. The NEB recognized a foreseeable deficiency in Canadian supply and thus a need to conserve. Obviously, Canadian needs must be met first and the controls will serve as short-term protection. But, in the opinion of the NEB, the costs of additions to reserves will be much higher than previously and a substantial reduction in production would deprive industry of a cash flow source with which to conduct exploration. Thus, the "best protection in the long run is obtained from an active, and economically healthy industry, continually increasing the available energy materials."[18] With the NEB's formula, exports would be phased out over a number of years to allow traditional dependents an adjustment period.

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[16] Rotstein, *op. cit.*, pp. 98-99.

[17] National Energy Board, *Report to the Honourable Minister of Energy, Mines and Resources in the Matter of the Exportatation of Oil* (Ottawa: Information Canada, 1974).

[18] National Energy Board, *Report to the Honourable Minister of Energy, Mines and Resources in the Matter of the Exportation of Oil* (Ottawa: Information Canada, 1974).

As stated previously, the price of oil in both the U.S. and Canada has been regulated since the 1950's and the world price was very low from the same time. The huge increase in U.S. demand for oil in the early 1970's led to evidence of domestic shortages and was partly responsible for the rising price of international oil at this time. "Canadian crude oil prices moved upward as well, and were $3.80 per barrel at the wellhead in August of 1973."[19]

Canadian oil prices have always been linked with those prevailing in the Chicago market, because Canadian oil competed with U.S. production there. The NEB Act requires exports be priced at least equivalent to the prevailing price in their market destination, so the wellhead price in Canada was the Chicago price less transportation costs.

As the prices moved upward in 1973, the Government of Canada "was faced with a choice between allowing domestic oil prices to rise in line with those in the United States or protecting domestic prices to insulate Canadians from U.S. oil-price developments."[20] The decision was made to separate Canadian domestic prices from export prices, because it was thought the increases were temporary and "were a result of factors unique to the United States and should not, therefore, be imposed on Canadian consumers."[21]

One month before the October Arab-Israeli conflict, September 4, 1973, the Government of Canada froze crude oil prices at $3.80 per barrel (wellhead) and instituted the export charge.

The export charge is added to the export price of oil and reflects the difference between the Alberta wellhead price and the cost on the international market for a delivered barrel of oil. By instituting this charge, the Canadian Government was attempting to equalize the cost of petroleum throughout Canada while continuing to regulate the domestic price of oil. Revenue from the export charge was to be used for compensation payments to consumers in the eastern provinces, thereby allowing those areas of Canada dependent on imported oil to buy it at domestic levels should the import price exceed the domestic price. The Government realized that this situation would work well only so long as Canada remained a net exporter of oil (or imports exactly equalled exports) – in which case revenue from the export charge would exactly compensate for the extra cost of imported oil. The cost of a barrel of Canadian oil in the U.S. would remain constant if the regulated wellhead price increased, but if the world price for oil increased, the export charge would increase by the same amount.

The U.S. has considered the oil export charge an important issue in bilateral relations from its initiation. It stems from some popular misunderstanding of Canada's motives, but also from the desire to maintain a cheap, reliable source of oil in a time when there is no longer one.

By the winter of 1973, Canadian policy toward energy trade with the U.S. had begun to change. The Canadian acquiescence toward the U.S. oil investment and development had been gradually replaced with a strong nationalist sentiment which was producing visible changes in Canadian policy. The Government had instituted export restrictions on oil, refused to authorize new gas export contracts after 1970, initiated the export charge, successfully raised and began regulating the prices of oil and gas. The Government had rhetorically rejected all hints at continentalism from the U.S. in favor of a case-by-case decision-making process in energy matters. There were strong moves for the establishment of foreign investment restrictions and for greater controls on U.S. media access to Canadian markets. All of these factors were indicative of a maturing Canada, of a nation putting the interests of its citizens first and giving them more control over their own destinies.

After the Embargo

The Arab oil embargo of 1973-74 profoundly affected all corners of the world. The cheap, abundant oil which had allowed unprecedented economic growth was suddenly quadrupled in price and in short supply, a political weapon in a turbulent region. This action precipitated substantial changes the world over and its direct effects will be visible for many years to come.

At the time of the embargo, Canada was the only major industrialized nation statistically self-sufficient in oil (i.e., a net exporter). Canadian production averaged 2.1 million barrels per day, of which 1.7 million barrels were consumed domestically, and 1.4 million barrels were exported to the United States. Imports from Venezuela (70 percent) and the Middle East (30 percent) of 1 million barrels per day supplied Quebec and the Atlantic Provinces.[22]

The U.S. has been "dependent" on imports of oil since 1965, i.e., when "domestic excess capacity could no longer match the levels of imports."[23] The U.S. has been a net importer of oil since 1947 and by 1973-74 was importing 37 percent of domestic consumption.[24] Most imports at this time were from Venezuela, with the remainder from Canada and the Middle East.

Although there was some disruption of supply to eastern North America during the embargo, the major problem was, and continues to be, the effects of the dramatic price increase. The huge surpluses of money for OPEC nations, contrasted with huge deficits in balance of payments for importing nations, has created problems of distribution of wealth throughout the world, adjustment to higher prices and recession.

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[19] *Energy Strategy, op. cit.*, p. 17.

[20] Canadian-American Committee, *Keeping Options Open in Canada-U.S. Oil and Natural Gas Trade* (Montreal and Washington: Canadian-American Committee, 1975), p. 15.

[21] Canadian-American Committee, *Keeping Options Open in Canada-U.S. Oil and Natural Gas Trade* (Montreal and Washington: Canadian-American Committee, 1975), p. 15.

[22] *Energy Strategy, op. cit.*, p. 17.

[23] Executive Office of the President, Energy Policy and Planning, The National Energy Plan (Washington: U.S. GPO, 1977), p. 14.

[24] *Ibid.*

For Canada, the immediate problem was not one of easing the transfer of wealth to other nations, but was one of facilitating

> "the transfer of income and wealth **within** the country, from oil-consuming to oil-producing provinces, in such a way that the legitimate aspirations of the oil-producing provinces could be realized while minimizing the disruption to the broader social and economic well-being of all Canadians."[25] (emphasis added)

Because Canada was then a net exporter of oil and the export charge was operating when the price increase came, Canadian consumers were initially insulated from the effects thereof.

In the aftermath of the embargo and price increase, both the U.S. and Canada reassessed their energy situations. The trend in both nations was to find a way to become less dependent on imported oil and thereby become removed from the whims of Arab political leaders. Both nations began seeking solutions to the problem of ever-growing demand coupled with declining domestic production and unstable foreign supplies.

This search in the U.S. manifested itself in "Project Independence", a plan to make the U.S. self-sufficient in energy by 1980. The major points of U.S. post-embargo energy policy are, first, to maximize domestic production, and second, if imports are necessary, to maximize imports from the most secure sources and to minimize them from the least secure sources. A secure supplier is one who will not interrupt supplies during an overseas emergency, who will not arbitrarily raise prices during a shortage, and who is not receiving oil from an insecure source.[26] Oil from Alaska's North Slope achieves the first goal, and Canadian energy the second. Although Alaskan oil and gas is at a competitive disadvantage with Middle Eastern oil because it is inaccessible, expensive to obtain and transport, and inadequate in quantity, it is being developed because it is a more secure supply. Canada was considered a secure supplier, and thus her energy resources were automatically included in U.S. energy plans. Because security was the dominant consideration, past experience led U.S. planners to rely on Canada to help alleviate the American energy crisis.

However, Canada was experiencing energy problems of her own. The trend away from continentalism was growing stronger, so the policy changes enacted prior to the embargo were mild when compared with those enacted afterwards.

By January, 1974, "traditional Canadian pricing relationships had become reversed"[27] because the Government had granted to oil importers slight increases in prices charged to consumers. Eastern Canadians then began paying more for their oil than those served by domestic production – the opposite of the previous situation.

The Canadian First Ministers (the Prime Minister and the Premiers of all the provinces) met in early 1974 to discharge their duty of establishing Canadian oil pricing policy. In March, the First Ministers agreed on a single price for crude oil throughout Canada. "This price would be based on the prevailing price for Canadian production at the wellhead, adjusted . . . for transportation charges and quality differences."[28] Eastern consumers would henceforth pay the same price for oil as western consumers through imposition of the "oil import compensation program". This is a program whereby payments, financed from revenues generated by the oil export charge, are made to oil importers in amounts reflecting the differences between the domestic and international prices of oil.

The First Ministers also decided to increase the price of domestic oil from $3.80 per barrel to $6.50 per barrel (at the Alberta wellhead), a reflection of the Government's commitment to move toward international price levels. The domestic price was frozen at $6.50 for fifteen months. With a then world wellhead price of $9.60 per barrel, or ca. $10.50 delivered to Eastern Canada, the export tax amounted to approximately $4 per barrel of crude for U.S. importers.

The logic behind the single price oil policy was not merely to insulate Canadian consumers from the aberrations of the world market. This approach allowed Canada, so long as she was fortunate enough to maintain a net export position, to gradually adjust to higher energy prices and to use the 15-month period to make a less-pressured assessment of the energy situation. The suddenness of the OPEC price increase created much uncertainty as to the future of supply and price in the international market, and the Government felt time was needed for the market to stabilize so that policy decisions could be made within a less-urgent context. However, the Government recognized that domestic prices would have to move closer to international levels, "in view of the desires of producing provinces to secure larger financial returns from a depleting asset, the high and rapidly increasing cost of additional sources of supply, and the necessity to encourage efficient and prudent use of a non-renewable resource."[29] The Government hoped that prices comparable to world prices would provide an incentive for producers to increase exploration and development rather than moving to more profitable areas outside Canada. Also, higher oil prices were hoped to stimulate conservation and the development of more expensive, unconventional energy sources, such as the Alberta tar sands.

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[25] *Energy Strategy, op. cit.*, p. 18.

[26] *New Environment in Canadian-American Relations, op. cit.*

[27] *First Ministers' Conference*, "Background Paper", *op. cit.*, p. 2.

[28] *First Ministers' Conference*, "Background Paper", *op. cit.*, p. 2.

[29] *Energy Strategy, op. cit.*, p. 19.

With an insulated domestic market, Canada was gradually able to increase crude prices, allowing minimal disruption to consumers. In fact, during 1974, Canada experienced good economic performance, particularly in relation to other industrialized nations. Total production increased and unemployment decreased, compared with decreases and increases respectively in other OECD countries. Inflation increased, but at a much lower rate than in other countries.

FIRA

In December 1973, the Foreign Investment Review Act ("FIRA") became part of Canadian law. FIRA was passed because it is of national concern that "the extent to which control of Canadian industry, trade and commerce has become acquired by persons other than Canadians"[30] is substantial, resulting in a lessening of the "ability of Canadians to maintain effective control over their economic environment."[31]

FIRA limits investment in Canada to those persons who are either Canadian citizens or landed immigrants and to those corporations with majority ownership held by Canadians. Foreign individuals and foreign-controlled corporations must prove that their investments will bring a "significant benefit" to Canada in order to make investments. Significant benefit is judged by certain criteria including the effect of the project on economic activity – employment, trade, resource and capital use, "productivity, industrial efficiency, technological development, product innovation and product variety in Canada."[32] In other words, a project must not be detrimental to Canadian industrial and economic policy goals and the project's sponsors must prove that this is the case.

FIRA was designed to cover only future investments and was not designed to discriminate against any one nation, although this was charged by some Americans at the time. The Canadian Government realized that the amount of capital required in future years would exceed the amount of domestic funds available. "A substantial inflow of foreign capital will be needed, therefore, to achieve the full potential growth of the economy."[33] FIRA was not passed to eliminate or discourage foreign investment in Canada, but rather to ensure that any such investments would benefit the nation.

The first phase, covering acquisitions of control of existing businesses, has been in effect since April of 1974 and the second phase, covering new and unrelated businesses, since October of 1975. In 1975-76, 23 applications for investment were disallowed of a total of 159 reviewed (14 percent of the total), amounting to a reduction in foreign capital invested of $15-20 million. (For comparative purposes – $8 to $10 **billion** are invested annually in established businesses, which do not come under FIRA's jurisdiction.) The Government feels that this reduction is not substantial and that foreign investors are not being discouraged from investing in Canada.

Canadian critics of FIRA believe it **should** be discouraging more foreign investment than it does. They feel FIRA should be made retroactive in order to change existing patterns of resource ownership to give Canadians more control over important decisions in energy and minerals development. American businessmen were initially outraged that their investments would be screened. Some believed FIRA was directed at American investors, which is an understandable belief since approximately 70 percent of foreign investment in Canada comes from the U.S. and 21 percent of all investments abroad by U.S. corporations is in Canada. It is hard to appear even-handed when such is the case.

Despite these criticisms, FIRA has proven to be less than effective in giving Canadians greater control over their economy, particularly in the oil and gas sectors. Ownership patterns have changed very little and are unlikely to, because the patterns developed long before FIRA's enactment. Increased energy exploration and development by the oil companies will require review but, given the substantial capital requirements and the Government's priority in finding new reserves, it is doubtful that oil and gas ownership will include more Canadians in the years to come. FIRA is more of a symbol for Canadians than an effective tool for giving them more control over the economy.

Toward Canadian Export Termination

During the spring of 1974, the NEB held a series of hearings on industry estimates of Canadian oil and gas reserves. In a report issued in October of 1974, the NEB concluded that domestic production would be inadequate by 1982 to supply the traditional domestic market (WOV) plus that of Montreal, and recommended a phase-out of exports to the U.S. It was believed that an immediate termination of exports would be unfair, by causing significant supply problems for northern tier refineries without leading to any significant gain in domestic production potential. The

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[30] Foreign Investment Review Act, 21-22 Elizabeth II, § 2 (1).

[31] *Ibid.*

[32] *Ibid.*, § 2 (2) (c).

[33] Foreign Investment Review Agency, *Annual Report: 1975/76* (Ottawa: Supply and Services Canada, 1976), p. 23.

Government accepted the NEB's recommendation and announced that oil exports to the U.S. would be phased out by the early 1980s, beginning January 1, 1975.

The schedule for export termination is based on two significant factors.[34] First, projections indicate that domestic demand will exceed supply by the middle 1980's. In November 1974, the NEB developed a formula for determining the amount of oil in Canada over a ten-year period subtracted from the anticipated annual Canadian supply over the same period. If there is a surplus, then this amount can be licensed for export. "If such forecasts show that surpluses will disappear in less than ten years, exports will be phased out.[35] (Ten years is considered an appropriate length of time because of the accuracy of forecasts and the lead time necessary for increasing development.) Put simply, there can only be an exportable surplus if there will be more oil produced than a decade of Canadian demand will consume. In the event of necessary reduction in exports, the situation in 1975, the allowable amount will be determined by subtracting from annual production a factor representing the number of years until surpluses disappear, divided by ten. A factor representing the amount of energy saved through domestic conservation efforts is also subtracted from the amount of exportable surplus.[36]

Second, in order to lessen Eastern Canada's reliance on imports the Government decided to abolish the dual market in Canada established in 1961. To accomplish this goal of greater self-sufficiency, the pipeline from Alberta is being extended from Sarnia, Ontario to Montreal, through which 250,000 barrels of oil per day will flow to the Quebec market. Because domestic production cannot be significantly increased, this amount of oil is to be diverted from U.S. markets.

There was an outraged storm of protest from the U.S. when this decision was announced. Unbelievable charges of "treason" and "discrimination" were levelled against the Canadian Government for cutting off supplies. Few Americans understood that the reason behind this move was to assure an adequate supply of fuel for Canada before there was any thought of export. The Canadian Government did act unilaterally, with no consultation with the U.S., but chose a course which "lessens the ultimate impact on (the U.S.) by giving . . . importers time to find alternative energy sources."[37] The Government sought a method that would be fair to both Canadian and American consumers dependent on Canadian oil. Indeed, there were charges that the Government jeopardized future domestic supplies by not phasing out exports sooner than 1983 – charges that the Government was more concerned with the welfare of Americans than with that of Canadians; that the oil will be mostly gone by 1983.

Much time has been spent on public relations regarding this issue and although the critics of this policy have not ceased, there is little misconception about the reasons behind it. An extension of the need to place national concerns before foreign concerns, this action was designed to deal with an internal problem. It illustrates, however, the strong relationship between internal and external policy within Canada and the U.S. in economic affairs.

The policy to phase out reports to the U.S. has directly created economic problems for Canada. During 1975, when exports were first reduced, Canadian consumption of oil and thus imports were increasing. For the first time Canada became a **net importer** of oil (i.e., imports exceeded exports). Consequently, the scheme for keeping Canada temporarily insulated from world prices no longer operated. Revenue from the export charge could no longer match the extra amount paid for higher-priced imported oil. Compensatory payments to importing provinces (EOV) decreased accordingly and consumers had to pay more for oil than WOV.

The chronic economic problems in Eastern Canada worsened. This was also true throughout Canada, as the effects of a deficit in oil, combined with a world-wide recession, began to be felt. Unemployment and inflation increased, reversing the beneficial effects of the previous year's good economic performance. When the First Ministers met again in April 1975 to discuss a price increase, the strife between the producing and consuming provinces was growing. While the Canadian crude price was frozen at $6.50 per barrel, the delivered international price had gone from ca. $10.50 to $12 per barrel, increasing the disparity between domestic and world oil.

At the First Ministers' Conference, discussions split along geographical lines. Alberta speaks for the producing provinces of western Canada and as such has an intense desire to see oil prices rise to international levels. Alberta produces 85 percent of oil and 83 percent of gas in Canada and one in three Albertans depends on the petroleum industry for his livelihood. The Alberta Government believes oil and gas must be priced at levels which will: encourage greater exploration in both conventional and frontier areas; encourage technological developments for greater recovery of conventional reserves; compensate Albertans for the depletion of their resources; be high enough to bring frontier reserves and synthetic fuels into production; discourage waste; and recognize the need for Canadian industry to be competitive in the world economy.[38] International prices for Canadian fuels also mean a large increase in Alberta's revenue.

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[34] *Keeping Options Open in Oil and Natural Gas Trade, op. cit.,* pp. 16-18.

[35] *NEB 1974 Report on Exploration of Oil, op. cit.,* p. 4-7.

[36] National Energy Board, *Canadian Oil: Supply and Requirements* (Ottawa: Supply and Services Canada, 1977), p. 70.

[37] Alastair Gillespie, "Aspects of Canadian Energy and Investment Policy", Pittsburgh, January 22, 1976.

At the other extreme, New Brunswick is a relatively poor province with high unemployment and is heavily dependent on imported oil. New Brunswick's position is that higher oil prices mean only greater economic hardship and a growing disparity between the producing and consuming provinces.[39] Ontario's Premier accused Alberta and Ottawa of taking 90 percent of the previous price increase in taxes and royalties. Ontario has traditionally consumed Alberta oil and gas when the price was higher than the international prices and believes a quid pro quo is in order now that the pricing situation is reversed.[40]

Depite the very real fears of the consuming provinces, the decision was made to increase the price of oil once again. The price was increased to $8.00 per barrel on July 1, 1975 in order to stimulate exploration and conservation. The Government at the same time instituted a 10 cent per gallon excise tax on gasoline used for noncommerical purposes to help finance oil compensation payments to the eastern provinces, rather than using general tax revenues. "The proceeds of this tax are being used to make up the growing deficit between the oil import compensation payments and the dwindling revenues from the oil export charge."[41]

Canada Energy Policy in the Future

The decision to increase oil prices was made in the context of an assessment of Canadian energy policy by the Federal Government. This assessment finally resulted in the publication of *An Energy Strategy for Canada* in April of 1976. This publication reviews past policies and present conditions in the Canadian energy situation and formulates a comprehensive policy to deal with the future. The major goal for Canada is self-reliance, rather than self-sufficiency, in ten years. "Self-reliance in energy can be measured by the degree to which we are independent of imported oil from insecure sources; the greater our independence, the greater our self-reliance."[42] Elimination of oil imports was rejected as a goal because it is unrealistic – imports cannot be eliminated in the short-term because economic, technical and social conditions prevent it. Rather, Canada is seeking to reduce "our vulnerability to arbitrary changes in price or prolonged interruptions in supply"[43] by reducing imports as much as possible and by maintaining a reserve supply sufficient to meet any emergency.

The Government realizes that there is no one solution to Canada's energy problems, but that several methods must be employed.

> "We must strive to reduce our energy requirements to the minimum necessary to support the quality of life we desire. We must accelerate the search for new sources of energy and for new technologies for the production, distribution, conversion and utilization of energy. We must intensify our efforts to maintain control of our energy future, by minimizing our dependence on sources of supply that are not secure. And, mindful of the social, environmental and economic aspirations of all Canadians, we must pursue these aims in a manner that makes the necessary adjustments as smooth and orderly as possible."[44]

The specific policies advanced are all premised on these general goals, and include greater utilization of existing reserves, development of frontier reserves, synthetic fuels and alternative energy sources, interfuel substitution, energy conservation, emergency preparedness and appropriate pricing. Taken together, these policies will help Canada use energy more efficiently, reduce demand and achieve energy self-reliance in the medium-term. For the long-term, further objectives and initiatives will be required and will be "directed at the problems of transition from oil – and gas-based energy systems to alternative energy sources."[45]

In general, Canadian energy policy, as exemplified in *An Energy Strategy for Canada,* will have little impact on the United States except that present trends of decreasing exports are unlikely to be reversed. However, some specific policies involve American interests.

The Strategy calls for greater Canadian content and participation in energy development by relying on the Foreign Investment Review Agency to screen investments not beneficial to Canada, by northern land regulations allowing only Canadian participation, by direct governmental participation in the form of PetroCanada, and by restrictions on foreign uranium ownership. None of the policies are retroactive, so ownership and participation patterns in traditional areas will remain the same. However, new projects in both traditional areas and the frontiers are likely to have greater Canadian participation. The dilemma created by this policy is that the technology and capital necessary for exploration and development must come predominantly from the oil companies, which are overwhelmingly American controlled, a condition unlikely to change soon. The probable course will be that these oil companies' projects will be deemed of significant benefit to Canada and thus allowable under FIRA. This clearly illustrates the problem for Canada of trying to increase Canadian control in economic endeavors while maintaining economic stability.

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[38] Statement by Premier Peter Lougheed, in *Federal-Provincial Conference of First Ministers, op. cit.*

[39] Statement by Premier Richard Hatfield, in *Federal-Provincial Conference of First Ministers, op. cit.*

[40] Statement by Premier William Davis, in *Federal-Provincial Conference of First Ministers, op. cit.*

[41] *Energy Strategy, op. cit.*, p. 21.

[42] *Energy Strategy, op. cit.*, p. 123.

[43] *Ibid.*

[44] *Ibid.*, p. 149.

[45] *Ibid.*

The Strategy also emphasizes the need for improved energy transportation facilities and new delivery systems. Although the "Government of Canada is not committed to the delivery of frontier gas at any cost",[46] frontier reserves are being used in estimates of Canadian supplies for the 1980s and will be needed to offset declines in traditional supplies by 1985.[47] The decision on whether a pipeline from the Arctic will exist has not yet been made.

Canada is planning emergency preparedness within the context of the International Energy Agency. The IEA was established through American initiative in 1974 and its members are most of the OECD nations, including both Canada and the U.S. The IEA is designed to be a collective security counterforce to OPEC through joint efforts by its members to reduce their dependence on OPEC oil. The cooperative programs include "the elaboration of conservation measures, the undertaking of joint research and development projects to make available new energy sources, and the further development of oil and other existing energy sources within the participating countries."[48] The emergency oil sharing plan is an important part of IEA programs because it provides for petroleum allocation in the event of another embargo. Each member must maintain an emergency supply equivalent to two months of the amount of its imports to be used in a general embargo or shared with other members in a selective embargo. Canada participates in this program for national security reasons — it is a guarantee against severe supply disruptions and gives Canadians access to research and development data and technological advances in energy development.

Contemporary Energy Relations

Present energy relations between the U.S. and Canada involve a complex web of circumstances and decisions. There are several levels at which decisions are made, which directly affect energy relations. Formal official policies spring from the government to government level, for it is here, under international law, that two sovereign nations must conduct relations. However, in the case of Canada and the U.S., this is only a small part.

Due to the vast amount of contract between the two nations, informal decisions play a large part in the present status of relations. U.S. Corporations, through their subsidiaries as previously noted, have heavily invested in Canadian natural resources. Because resources are under the jurisdiction of the provinces wherein they occur, these corporations deal principally with provincial, rather than the federal governments. With the exception of the federal corporate income tax, all taxes and royalties are established, collected, and used by the provincial governments, according to their needs and desires.

However, the Federal Government has jurisdiction in areas which dramatically affect the nature of trade relations such as export policy, pricing and pipelines. Also, Ottawa has jurisdiction over resources in the Yukon and Northwest Territories. The Federal Government's policies are supposed to reflect the combined interests of all Canadians, rather than those of particular regions. The continuing problem is that the different regions have widely disparate interests. For example, Alberta, as the primary location for Canada's conventional energy resources, would like to see oil and gas prices rise to international levels as soon as possible in order to maximize revenues. On the other hand, the Atlantic Provinces, as the primary consumers of imported oil, would like to see prices as low as possible in order to stave off economic crisis. Reconciling these differences and coming up with uniform policies is the task of the Federal Government. Such are among the many disparities in federal-provincial relations within Canada, disparities which go far toward explaining at least part of Canada's position toward the United States vis-a-vis energy resources, and other issues as well.

Conclusion

Canadian-American energy relations involve many complex issues and circumstances which are matters of highest national priority to both nations. Canada is seeking energy self-reliance by eliminating exports and developing high-cost domestic resources. In order to accomplish the latter, large amounts of capital investment are required and the most logical sources are the American-controlled oil companies. This creates a dilemma for Canada because although energy self-reliance is important, maintenance of a national identity is equally so and increasing foreign investment is viewed with anxiety. This is but one example of the problems involved in bilateral relations at present.

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[46] *Energy Strategy, op. cit.*, p. 140.

[47] Alastair Gillespie, Speech to the House of Commons, August 5, 1977.

[48] Mason Willrich and Melvin A. Conant, "The International Energy Agency: An Interpretation and Assessment", *American Journal of International Law,* Vol. 71, No. 2, April, 1977, p. 203.

Bilateral energy relations have changed in recent years as a result primarily of two important factors. Rising Canadian nationalisn created perceptual changes in Canada's image of the U.S. during the late 1960s and early 1970s. The relationship of the past was closely scrutinized by the Government and many interest groups within Canada, and many citizens came to the realization that, if left unchecked, the U.S. could unintentionally but easily stifle Canada's economy and cultural identity.

Changes were in the offing when the Arab oil embargo, the second important factor, occurred. The changes resulting from the increase in the world price of oil were substantial for all nations. Both Canada and the U.S. evaluated their energy futures and enacted policies to ease the adjustment for consumers and make the future more secure. Canada was fortunate in being able to insulate consumers temporarily from the price increases through imposition of the export charge. However, a look at Canada's supply situation led to the decision to curtail exports which removed the insulation and opened Canada to severe economic problems.

The two factors together help in an understanding of subsequent Canadian policy decisions in energy areas, especially in areas of common interest with the U.S. The protest over Canada's unilateral decision to eliminate oil exports caused Canada to establish a policy of greater consultation when decisions will affect American consumers and businesses. Consultation and cooperation are now the main components of bilateral energy relations, as seen in the oil swapping arrangements, emergency supplies, the gradual nature of the termination of exports, the negotiations over the Arctic gas pipeline, the Transit Pipeline Agreement, and in other areas.

However, Canada is seeking an independent course in finding a solution to the energy crisis and is only cooperating with the U.S. in areas of mutual benefit. Whereas in the past international policy often determined the course of domestic policy, Canada is now pursuing domestic policy on the international level. And so the course of future energy relations between the two countries is set.

Of Oil and Gas: A Primer on the Role of Oil and Gas in Canadian-American Relations

by

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Oil

Of all the energy resources characteristically found and utilized in North America – coal, uranium, oil, gas and hydropower – it is oil and natural gas which continue to be the main components in Canada-U.S. energy trade. Oil and gas presently supply 65 percent of primary energy needs in Canada and because of the difficulties (e.g., time, expense) involved in developing new sources of energy, conventional hydrocarbon fuels will continue to supply most Canadian needs through the end of the 20th Century. It is on the basis of this assumption that Canadian energy policy has evolved since the turbulent embargo period of 1973.

The latest estimates of conventional oil reserves indicate a recoverable amount of 6.878 billion barrels in the nonfrontier areas of Canada.[1] The specific amount of oil in Canada's frontier areas is unknown, largely because there have been inadequate and unsuccessful exploration activities. In part, because of both nations' oil pricing policies, the oil companies are attracted to the U.S. and away from Canada to do exploration work. However, as of January 1, 1976 approximately 500 million barrels of oil and natural gas liquids have been discovered in the frontier. Total oil reserves have been declining since 1970 with production surpassing additions to reserves. "New discoveries have been less than annual production since 1970 and exploration in the established areas has been unrewarding in terms of new oil finds."[2] Estimates for the Alberta tar sands (to be discussed below) indicate recoverable reserves of approximately 250 billion barrels of synthetic crude.[3]

Domestic demand for Canadian oil is expected to increase by an annual rate of approximately 3 percent over the next 15 years. Because domestic production from established reserves is declining, imports will continue to increase and it is estimated that by 1985 net imports "could amount to 40 percent of Canadian oil demand. By 1990, additional production could reduce this to about 38 percent of domestic oil demand."[4]

Canada is looking toward her frontiers and the tar sand deposits of Alberta to supply future needs. Whereas the location and extent of oil reserves in the frontiers are largely speculative, the location and extent of the oil sand and heavy oil deposits have been well-known for many years. The limiting factors in their development have been the substantial costs involved and the lack of adeuqate recovery techniques. The tar sands and heavy oils are both low grades of petroleum requiring difficult recovery and refining techniques which are only now coming into commercial use. The potential in these deposits is enormous, however, and the Government is committed to bringing them to market.

The major problems in developing these reserves are common to both types: getting the oil from the ground and upgrading it to usable crude types. There is a great deal of economic risk involved in developing these reserves, for less than 50 percent recovery is considered good. The developers of these fields claim that the Canadian price of oil must compare with the international price – and will probably need to be higher – in order for the tar sands to be competitive in the market with conventional crudes. The Government has committed itself to maintaining high domestic prices even if OPEC disintegrates and the international price falls. The Government is making this guarantee in order to stimulate the development of heavy oil, tar sands and other unconventional and high-cost sources of energy.

Through PetroCanada (the national oil company), the Government is also directly participating in tar sands development. PetroCanada began operations on January 1, 1976 with a capitalization of $1.5 billion. It was formed to actively participate in frontier and other unconventional resource development, supplemental to the activities of private corporations. PetroCanada will "increase the overall level of exploration activity, expand the number of companies taking part in such activity, increase Canadian participation in the development of Canadian resources and provide an invaluable source of knowledge"[5] for future policy planning.

The Great Canadian Oil Sands, Ltd. project is currently in small-scale operation (50,000 bbl/day), but the mammoth $2.2 billion Syncrude project will produce 125,000 barrels per day by 1981, three years after operations begin.[6] Three oil companies (Imperial Oil, Gulf Oil of Canada and Canada Cities Service – all with majority American ownership) have a 70 percent interest in the Syncrude project. PetroCanada, the Alberta Government and the Ontario Energy Corporation together have the remaining 30 percent interest.[7] Ottawa has deemed this project of high national priority and has not only guaranteed world prices for its products, but also will subsidize the price of this oil for the first few years of Syncrude's operation in order to keep it competitive with lower cost oil. These policies exemplify Canada's strong commitment to easing potential supply problems through domestic initiatives.

Exports of Canadian oil to the U.S. are being phased out via a schedule revised in 1976. The total dependence of the U.S. on Canadian oil amounts to only 5 percent of consumption. However, for many refineries in the Northern Tier this oil is the only supply available. Refineries west of the Rocky Mountains and in California can now be supplied with Alaskan oil shipped in tankers, but those east of the mountains (in Montana, eastern Washington and northern Idaho, particularly) may encounter critical supply problems. The gradual nature of the export termination schedule was designed to allow these refineries the opportunity of finding alternative sources of supply, but few sources appear to be available. There are, however, a couple of arrangements, in use and proposed, which alleviate the bleakness of this region's future.

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[1] Department of Energy, Mines and Resources, *Oil and Natural Gas Resources of Canada, 1976* (Ottawa: Supply and Services Canada, 1977) p. 13.

[2] *Ibid.*, p. 14.

[3] *Ibid.*, p. 50.

[4] *Energy Strategy, op. cit.*, p. 83.

[5] *Energy Strategy, op. cit.*, p. 27.

[6] Department of Energy, Mines and Resources, *Oil Sands and Heavy Oils: the Prospects* (Ottawa: Supply and Services Canada, 1977), p. 21.

[7] Jeff Carruthers, "Subsidy from Ottawa to Syncrude Will Fuel Alberta's Treasury", Toronto *Globe and Mail*, June 17, 1977, p. B10.

First, both Governments have agreed to (and have accomplished) oil swapping arrangements. These are informal, ad hoc swaps of Canadian crude for "oil of U.S. domestic origin."[8] Canadian crude is exported to refineries in the U.S. mid-west in exchange for U.S. crude sent into the Montreal market. Because these are "exchanges", the amounts sent from Canada are independent of the amount of exportable surplus allowed by Canada's National Energy Board (NEB). These quantities are, however, licensed and carefully regulated by the NEB and the U.S. Federal Energy Board (FEB). In 1976, a total of 3,144,077 barrels of oil were licensed for exchange. Of this quantity, 2,565,600 barrels were exported to U.S. refineries and 2,556,582 barrels were imported into Canada,[9] resulting in a small net loss for Canada.

The U.S. desires a continuation of these exchanges on a more permanent basis, but Canada is reluctant to agree. The U.S. would also like to expand the arrangements and substitute "external oil", i.e., imported oil,[10] for that produced domestically. Because of the political implications, the Canadian Government refuses to accept this proposal. The Government is committed to reducing Canada's dependence on imported oil for security purposes, and thus will not accept its use in energy swaps with the U.S., no matter how convenient for U.S. suppliers. The exchanges were "initiated to facilitate the supply of feedstock to refineries in the Northern Tier region of the United States"[11] and will continue so long as they are mutually beneficial. The ad hoc nature of the swaps allows Canada the flexibility of cancelling at any time. Canada considers increasing dependence on OPEC oil to be detrimental to her national interest, and for this reason will not accept the American proposal.

A second arrangement designed to relieve the shortages in northern refineries involves the use of Alaskan crude. There are four proposals which would supply Alaskan oil to northern refineries. First, there is a temporary solution proposed by Burlington Northern to transport the oil by rail up the Columbia River. Longer-term proposals include a controversial Northern Tier pipeline to run 1500 miles from Port Angeles, Washington to Clearbrook, Minnesota, and an 800-mile Canadian pipeline from Kitimat, B.C. to Edmonton, where it would tie in with the already existing Trans-Mountain Pipeline. The final proposal involves construction of a new port in Washington and reversal of the flow in the soon-to-be-phased-out Trans-Mountain Pipeline. (Use of this pipeline is being terminated because of reductions in exports.)[12] At present, the Trans-Mountain reversal is the only proposal involving the U.S. and Canada which is being given serious consideration.[13]

The completion of the Sarnia to Montreal pipeline in mid-1976 is in part responsible for the further cutbacks in exports since then. The Canadian Government's reasons for extending the pipeline were twofold: first, to lessen Eastern Canada's dependence on imported oil, and second, to establish an overland transportation route for oil in case of another embargo. Both reasons are based on national security.

In the 1973-1974 embargo, oil was shipped by tanker from B.C. through the Panama Canal to the Portland, Maine pipeline terminal to meet shortages in the Eastern Provinces. This action, though successful, was highly vulnerable to sabotage, so the Government sought a more secure route should the embargo be repeated. Thus, the Sarnia-Montreal pipeline extension. The important point here is that Canada sought a route which could supply both the Eastern Provinces and the Eastern U.S., a point which few Americans were aware of. Before this extension, there was no transportation route for oil from central North America to the East coast of either nation, so this extension could now conceivably fill the gap.

Even with this pipeline, Eastern Canada will remain dependent on imported oil for many years because the producing provinces lack the production capability to supply all domestic needs. Contrary to charges by some Americans, when these points are understood, it should be obvious that construction of the pipeline extension was not directed against the U.S. Rather, it was constructed for national security reasons, with the intention of alleviating a mutual problem between the two countries, in addition to dealing with an internal Canadian problem. The result of this extension has been a revised export termination schedule, with oil supplying Montreal coming at the expense of exports. This result has caused some strain in bilateral relations.

Pricing and the export charge continue to be the most controversial areas in Canada-U.S. oil trade. Although both nations continue to regulate the price of domestically-produced oil, Canada is gradually moving toward international price levels, a situation strongly protested by the U.S. With the oil export charge, it should be irrelevant to U.S. consumers what the domestic oil price is in Canada, because they continue to pay the world price. The American complaint seems to be with the OPEC-determined world price, and Canada's adoption of it; the fear seems to be that the world price will fall and Canada's will not.

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[8] National Energy Board, *Annual Report, 1976* (Ottawa: Supply and Services Canada, 1977), p. 14.

[9] *Ibid.*, Appendix XXI.

[10] Interview with Gary Posz, U.S. Embassy, Ottawa, June 17, 1977.

[11] *NEB Annual Report,* 1976, *op. cit.*, p. 14.

[12] "Four Plans Studied for Replacing Canadian Oil in U.S. Northwest", Toronto *Globe and Mail*, January 1, 1977, p. B2.

[13] Gary Posz, *op. cit.*

Although the export charge was only 40 cents per barrel in September, 1973, it "has been a source of irritation and misunderstanding in the United States"[14] from its inception. The irritation grew after the OPEC price increases of the winter of 1973-1974. American importers of Canadian crude take exception to the fact that the tax is based on the OPEC-determined international price of oil, a price they consider unrealistic and unsustainable by the world economy. It is unrealistic because it is not reflective of production costs plus profit, but a wholly arbitrary price set without consideration for economic factors.

Because the U.S. is a long-term importer of Canadian oil (indeed the **only** one), some Americans believe that the requirement to pay world prices through the export charge is discriminatory. Americans paid higher than world prices for Canadian oil for two decades until 1973. By so doing, they believe their loyalty should be rewarded through the granting of preferential treatment in the post-embargo world, i.e., Americans should not have to pay world oil prices unless Canadian consumers do. According to this argument, a separate price for U.S. consumers is discriminatory against traditional customers. "... the tax unfairly penalizes long-term customers traditionally dependent on Canada who have no alternatives in the short-term."[15] There have also been charges that American consumers are "subsidizing imports of high priced foreign wealth for some Canadian consumers in eastern Canada."[16] The Americans assert that the price of coal exported to Canada was increased, but it was also increased for U.S. consumers – illustrating America's good intentions toward its Canadian consumers.

This attitude seems unreasonable under the circumstances and was rather effectively answered by Energy, Mines and Resources Minister Gillespie:

> "For oil you import from us, we ask you to pay what we have to pay others – world prices. Under the circumstances that seems reasonable. It would hardly make sense for us to be delivering large volumes of our own domestic oil to you at less than the price we have to replace it with."[17]

It is not only a matter of equity. What is missing from the U.S. position is recognition of the fact that the corporations profiting from the handling of Canadian oil are predominantly American owned. Until 1973, U.S. corporations had virtually a free hand in Canada and the higher prices U.S. customers paid benefitted the U.S. multinationals as well as the Canadian economy. Since 1973, the situation has drastically changed and now the only preferred customers for Canadian crude are Canadians, but American corporations are still profiting. The American market is being phased out because it is in Canada's national interest to do so. The Government feels that for the U.S. to maintain such a bargaining position is not only "unwise", but also constitutes interference in Canada's internal affairs.[18] It appears to be interference to suggest that Canada should refrain from moving toward international price levels and should give preferential treatment to U.S. customers.

The present domestic oil price is $9.75 per barrel. In July, 1977, the Canadian Government announced increases of 41 percent in the domestic price over the next two years, in order to achieve parity with international prices, stimulate exploration and encourage greater conservation. The petroleum industry has strongly protested this move because most of the price increase will be returned to the federal and provincial governments and will not go to industry to be used for increased exploration.

The present split of petroleum profits is: 43 percent to the province, 40 percent to the industry, and 17 percent to Ottawa. On the basis of this split, the industry claims gross revenues represent "a healthy return for oil from existing wells, but (are) apparently not nearly enough to justify the cost of all the dry holes encountered in a search for new oil."[19] Even with the 41 percent price increase, which will increase industry revenue by $1 billion per year, the oil companies claim taxation and royalty policies must change before exploration will become an economically viable activity for them in Canada.

At present there is very little exploration being done in Canada because the industry feels that returns on old oil are not sufficient to make this activity worthwhile. The corporations are investing their funds in exploration in the U.S. where there are greater incentives to do so. There is a pricing distinction between "old" and "new" oil (i.e., between production from existing fields and newly discovered reserves, a distinction not found in Canada), with new oil priced close to international levels. With this higher price and the U.S. Government's percentage of profits much less than that in Canada, the industry has a greater opportunity for a return on its investment.

The Canadian Government is quite upset by this exodus. Although the Government feels current prices generate an adequate return to stimulate exploration in traditional producing regions, it does admit that "frontier resources cannot be discovered, produced and delivered to markets and yield a commercially attractive rate of return at current Canadian prices."[20] The provincial governments have established fiscal incentives for corporations to undertake exploration within their borders, for example, tax breaks on new production. The federal Government has some incentives for corporations to undertake exploration. These include a lowering of its own share of profits to less than 10 percent for corporations which increase spending on exploration, meaning a greater return to corporations. If there is little or no exploratory activity, Ottawa will keep its full 17 percent of profits. The Government also plans to institute a system of returning revenues to those corporations exploring for new reserves to attract them back to Canada. To adequately monitor these returns, the Government submitted a bill in 1977 in the House of Commons to require oil companies to divulge how and where their revenues are spent.

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[14] *Keeping Options Open in Oil and Natural Gas Trade, op. cit.*, p. 1.

[15] Statement by Lawrence Raicht, in *Canadian-American Seminar, op. cit.*, p. 5.

[16] *Ibid.*

[17] Alastair Gillespie, January 22, 1976, *op. cit.*

[18] Interview with Robert Borden, Canada Department of Industry, Trade and Commerce, Ottawa, June 23, 1977.

[19] "The Friction over Canadian Oil Prices". *Business Week*, No. 2491, July 11, 1977, p. 34.

Natural Gas

Natural gas remains an important component of U.S.-Canada energy trade, although the last export contract was allowed in 1970. Because export contracts are made for long periods (some up to 25 years) as opposed to 30-day oil export contracts, gas will continue to be imported to the U.S. through the 1980s, but in decreasing amounts as earlier contracts expire.

The latest estimates show 59 trillion cubic feet ("Tcf"), at 1,000 BTU per cubic foot, of natural gas reserves remaining in Canada,[21] as of January 1, 1976. The greatest proportion of these reserves (51.3 Tcf) is located in Alberta. Production in 1976 totalled 2.49 Tcf, with 1.345 Tcf consumed domestically, and .934 Tcf, or 38 percent, exported to the U.S. "Essentially there has been very little change in remaining marketable gas reserves since 1971 – additions have been roughly equal to production."[22] However, in 1975 with a production total of 2.447 Tcf and an addition to reserves total of 1.7 Tcf,[23] this situation began changing and annual reserve additions are now insufficient to offset production. This is the primary reason for the NEB's consistent refusal to license any further export contracts after 1971. Additions were somewhat better in 1976, but the situation is still serious.

As with oil, Canada is looking to her frontiers for future gas supplies. It is extremely difficult at this time to estimate with any certainty how much gas is situated in the Mackenzie Delta and other frontier regions. Exploratory work in the frontiers has been declining for three years and the work that has been done has not been particularly successful. As of 1976, 25 Tcf of natural gas are **known** to exist in all frontier regions (5.3 Tcf in the Mackenzie Delta), with estimates of quantities which **may** exist throughout Canada ranging from 145 to 294 Tcf, 90 percent of which is expected to be found in the frontiers. "Using an approximate thermal equivalent of 6,000 cubic feet of natural gas per barrel of oil, the above estimates indicate that Canada's remaining oil and gas potential is expected to be dominantly gas."[24]

These estimates of course are independent of the costs involved in producing this vast potential supply, and thus are independent of the amounts which will actually be produced and the timing thereof. The regions where gas is most likely to be found are the Mackenzie Delta-Beaufort Sea, the Arctic Islands, and the Labrador continental shelf. These regions are inhospitable, making exploration and development difficult and expensive. These are areas "with very hostile environments and attendant high costs, logistical problems, and environmental risks."[25] Therefore, only in the long-term is the potential from these regions likely to be developed. In the short- to medium-term, additions to supply will come from the traditional production regions of western Canada.

The price of natural gas has always been low relative to its fuel value. Gas prices, as well as those of other fuels, are tied to the price of oil, and therefore have increased markedly since the early 1970s. In 1974 the field price of Alberta natural gas was 22 cents per thousand cubic feet (Mcf), or a delivered price in Toronto (the major market) of 62 cents per Mcf. On a fuel value equivalency basis, where 6 Mcf of gas contains the equivalent of one barrel of oil in BTUs, gas was vastly underpriced relative to oil. Partly as a result of this pricing situation, demand for gas was growing by 12 percent per year, but there was little economic incentive to explore for further reserves.

The Government of Alberta refused to allow any new contracts for the sale of gas in Canada from 1972 to 1974, in an effort to raise the price and slow the rapid depletion of gas reserves. In 1974, Alberta decided to lift this ban, but to move gas prices toward their full equivalency value vis-a-vis oil. By setting field prices using this criterion, Alberta hoped to achieve realistic pricing of gas and stimulate exploration for new reserves. As of November 1, the field price was set at 60 cents per Mcf, or an average of 45 cents for all Canadian gas fields, resulting in a delivered price in Toronto of 82 cents per Mcf.[26]

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[20] *Energy Strategy, op. cit.*, p. 38.

[21] NEB, *1976 Annual Report, op. cit.*

[22] E, M&R, *Oil and Gas Resources, op. cit.*, p. 13.

[23] NEB, *1976 Annual Report, op. cit.*

[24] E, M&R, *Oil and Gas Resources, op. cit.*, p. 37.

[25] *Ibid.*, p. 45.

[26] Energy Strategy, *op. cit.*, p. 22.

The Federal Government felt Alberta was allowing too little time for consumers to adjust to higher gas prices and recommended a more gradual transition. Negotiations were undertaken in the fall of 1974 and continued until June of 1975 when consensus between the producing and consuming provinces and the federal Government was finally reached. Alberta's planned increase to $1.60 per Mcf (delivered to Toronto) was modified to $1.25, effective November 1, 1975. This brought the price from 66 percent to 80 percent equivalency value of oil. The federal Government pledged to let gas prices reach par value by 1980 at the latest.

The export price of natural gas differs from the domestic price. This price is determined relative to the prices of fuels with which it competes in the market into which it is delivered in order to prevent its undervaluation. Under the same arrangements for raising domestic prices, the federal Government has phased in export price increases. In 1975 the "border price" was raised in three steps from $1.00 per Mcf to $1.60 on November 1. During 1976, in keeping with Canada's policy of pricing exports relative to the fuels it competes with, the Government proposed a series of border prices to reflect conditions in the different markets into which the gas would be delivered. In negotiations on these price increases, the U.S. Government protested Canada's multiple-price policy and demanded a uniform border price for gas irrespective of the intended market.[27] The effect of a uniform price would be unequal impacts in different U.S. markets – less severe in areas closer to the border or with higher than average competing fuel values. This aspect of the problem is an internal U.S. one, so the Canadian Government decided "to convert the separate prices to an average border-price in conformity with the United States Government's wishes. However, it remains the Canadian Government's policy to ensure as far as possible that our export gas is priced in relation to alternative available energy sources in the markets concerned."[28]

The compromise price of export gas is $1.94 per Mcf. In order to ease the transition to the higher price, the price was increased in two steps: first, to $1.80 on September 10, 1976, and second, to $1.94 on January 1, 1977. This price is almost at par with the BTU equivalency value of oil. "In the National Energy Board's view, the $1.94 price fully reflects a minimum current replacement value of our export gas in relation to international oil."[29]

Thus, for exports, the Government has reached its goal of a price reflective of full commodity value. The domestic price for gas remains only 85 percent of that for oil at a level of $1.50 per Mcf. By the most recent estimates of the NEB, gas prices will reach BTU parity with oil sometime in 1980, two years later than the Canadian Department of Energy, Mines and Resources (E, M&R) predicts.[30]

Although the U.S. Government approved the $1.94 export price, many American importers feel it is discriminatory and have protested its imposition. The Americans charge that a delivered price of $1.50 Mcf in Toronto compared with the $1.94 border price constitutes price discrimination against U.S. consumers.[31] As almost half the market for Canadian gas, these consumers believe they are entitled to the same prices Canadian consumers pay and believe they are being penalized simply because they are Americans. The Canadian Government has paid little heed to these charges and will continue with its policy of pricing exports at levels competitive with other fuels in their market destinations.

A minor problem between the two countries involves guarantees for gas supplies under export contract. In 1975, some gas fields in British Columbia experienced "operational difficulties" and could not meet production schedules. In order to supply domestic needs the provincial government cut back the amount of gas exported even though it was under contract and licensed for export. This caused problems for the U.S. markets dependent on this gas and led to quite a protest. The American recipients claim that the contracts entitle them to the gas no matter what happens to affect production. The B.C. government claims it has the duty to serve its citizens before foreign customers are supplied. There have been bilateral discussions as to how such circumstances should be handled in the future and both federal governments agree that when a shortage occurs, all customers should share the burden until normality is restored and every effort to supply as many customers as possible should be made. Apparently this means no customers should be given preference and a lessening of supply should be borne by all equally. No substantial supply disruptions have occurred since 1975, but should they, this attitude could lead to a great deal of bad feeling on both sides of the border.

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[27] Gary Posz, *op. cit.*

[28] Alastair Gillespie, June 10, 1976, "The Pricing of Natural Gas Exports", pp. 3-4.

[29] *Ibid.*,p. 4.

[30] NEB, *Canadian Oil, op. cit.*, Appendix K.

[31] Gary Posz, *op. cit.*

Commodity Investment in Canada: Current Issues

by

C. George Miller

Dr. George Miller is the executive director of the Centre for Resource Studies at Queen's University. The Centre is a cooperative research institute established in 1973 to contribute to the solution of problems and issues underlying natural resource policy, with particular emphasis on minerals. Prior to his current appointment, Dr. Miller was a vice-president of Stanley Associates Engineering Limited and general manager of the chemicals division of Celanese Canada. Dr. Miller is a professional engineer and a fellow of the Chemical Institute of Canada. The following paper was first presented at a seminar on The Canadian Perspective on Commodities sponsored by the Canadian group of the Trilateral Commission at Winnipeg, November 27/28, 1977. It draws information from a number of background papers on individual commodities which were prepared for the seminar by other authors. Their contribution is gratefully acknowledged, as is the permission of the Canadian group of the Trilateral Commission to reprint the article.

Introduction

A short but useful definition of commodities is "primary products that enter into trade among nations". The commodities considered in this paper are the products of selected Canadian natural-resource-based industries: agriculture, forestry, pulp and paper, mining and primary metals. Fishing is omitted altogether. Petroleum and natural gas are included at certain points for comparative purposes.

Canada is both a producing and a consuming country: both an exporter and an importer of these materials. The focus of this paper is on Canada as a supplier of commodities. It attempts to isolate those issues both domestic and international, which are most important in relation to the level of investment in Canada's primary sectors.

The ideal treatment of investment issues, a reliable forecast of the need for capital and the availability of investment funds, is clearly beyond the scope of this paper, but a generalized framework for discussion is provided. This consists, first, of a review of trends in investment in primary industries over the past fifteen years. Investment has grown at an irregular rate in these industries, some (such as pulp and paper) showing substantially more instability than others (such as oil and gas).

The second part of the paper discusses the factors which can be expected to affect the future demand for capital in primary sectors. Markets for Canadian commodities are critical determinants of growth in investment. Third, the availability of capital is discussed in terms of the sources of funds and the comparative attractiveness of Canada as an investment locale.

Finally, a number of issues arising from the analysis are raised in the form of questions. It is hoped that subsequent general discussion will clarify their importance and help to define a national investment policy.

Past Investment Patterns

In general, the decades of the 1950's and 1960's represented a period of relative growth in resource investment in Canada. There is evidence that this trend began to reverse in the late 1960's and that the 1970's have represented a period of relative decline in resource investment.

Figures 1 and 2 display the annual investment expenditures in current dollars for the whole Canadian economy ("All Sectors"), and for the commodity-producing industries, by year since 1960.[1] Investment in all industries grew in nominal terms over the period, but the growth has been irregular, and for some industries may be more apparent than real. Both **primary metals and paper and allied industries** have shown pronounced cyclic behaviour, while at the other extreme **oil and gas** investment has grown more smoothly than that for other industries. Distinct pauses are noted in **agriculture** (1967-71), **forestry** (1965-71) and **mining** (1971-75).

In order to eliminate the masking effects of inflation and overall economic growth, the individual industry investment data of Figures 1 and 2 have been recalculated as a percentage of all-sector investment. The plots of these percentages (Figures 3 and 4) can show whether the commodity-producing industries have been able to hold their own place in the Canadian investment scene. These graphs starkly display the cyclic nature of resource investment, and at the same time reveal trends more clearly than do Figures 1 and 2.

In total, the resource sectors increased their share until the mid 1960's, reaching a high of 20 percent of all Canadian investment in 1966. The general trend has been downwards since then. The drop would have been more severe without recent sharp increases in **agriculture** and **oil and**

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[1] The source of these data is: Statistics Canada, *Private and Public Investment in Canada: Outlook,* Catalogue number 61-205, annual, 1949-77.

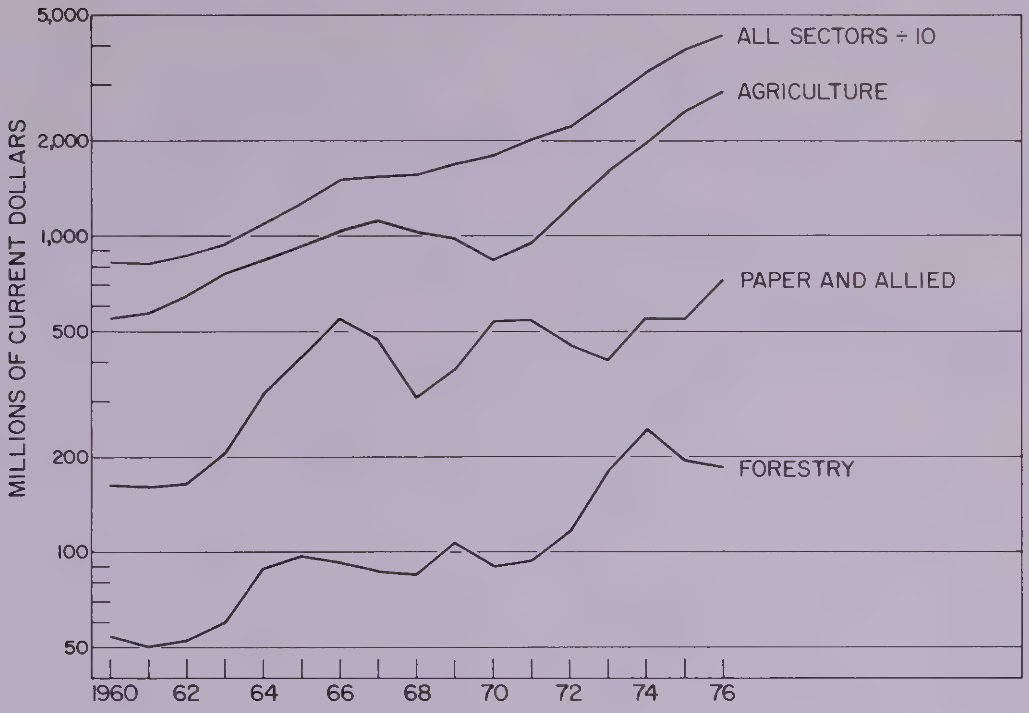

Figure 1: Investment Expenditures: Renewable Resources, Canada.

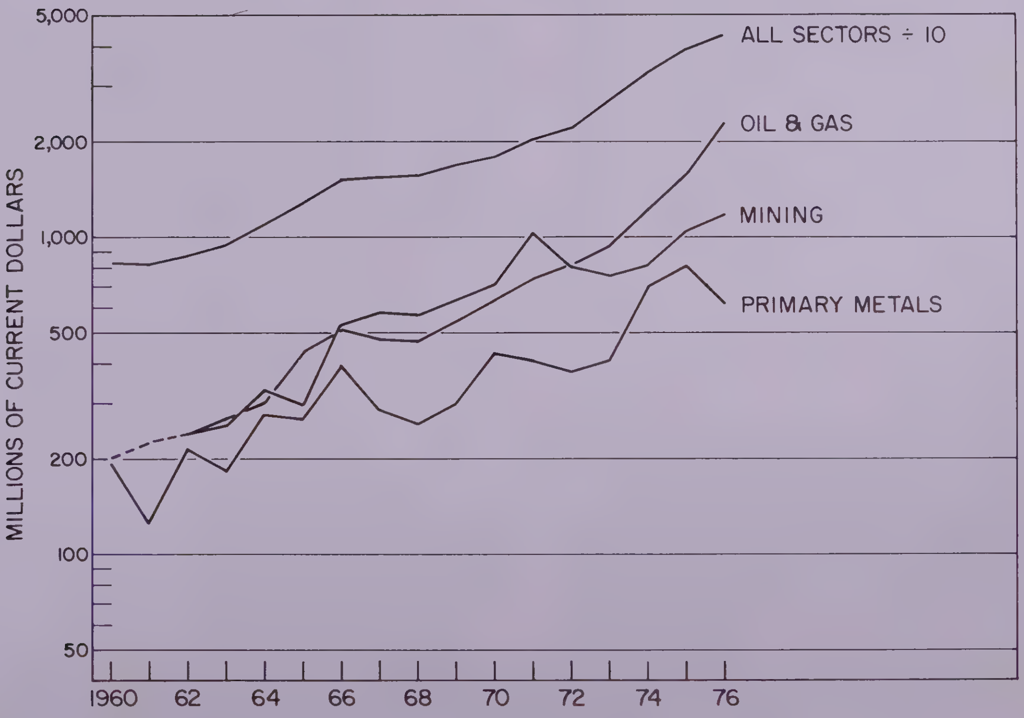

Figure 2: Investment Expenditures: Non-renewable Resources, Canada.

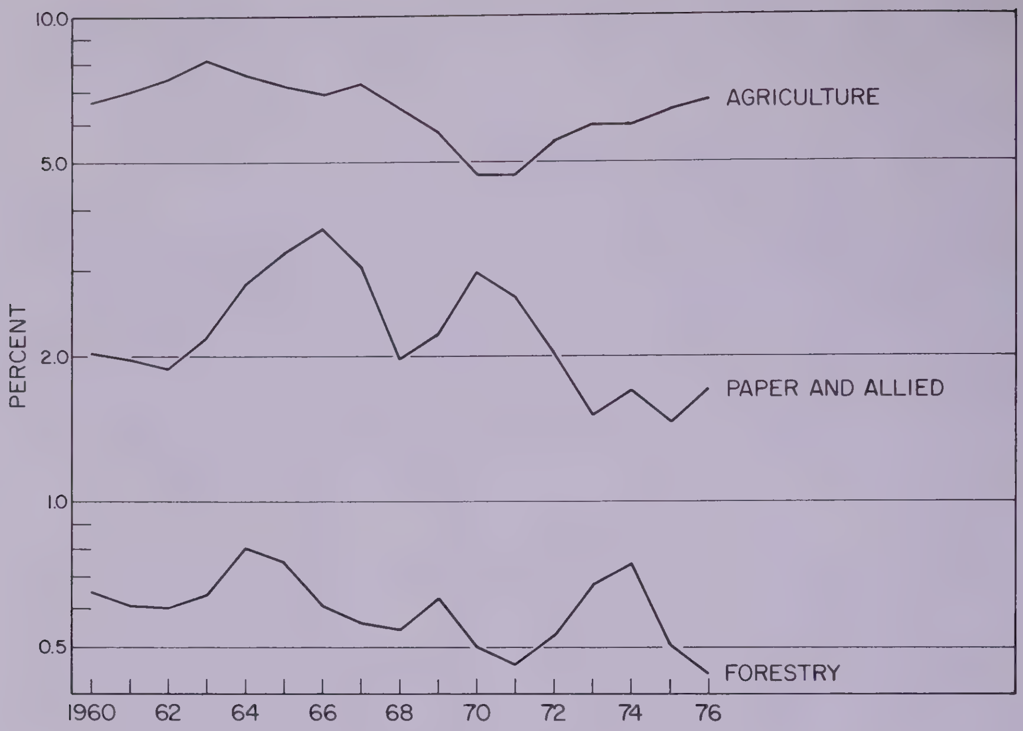

Figure 3: Renewable Resource Investment as a Proportion of Total Canadian Investment.

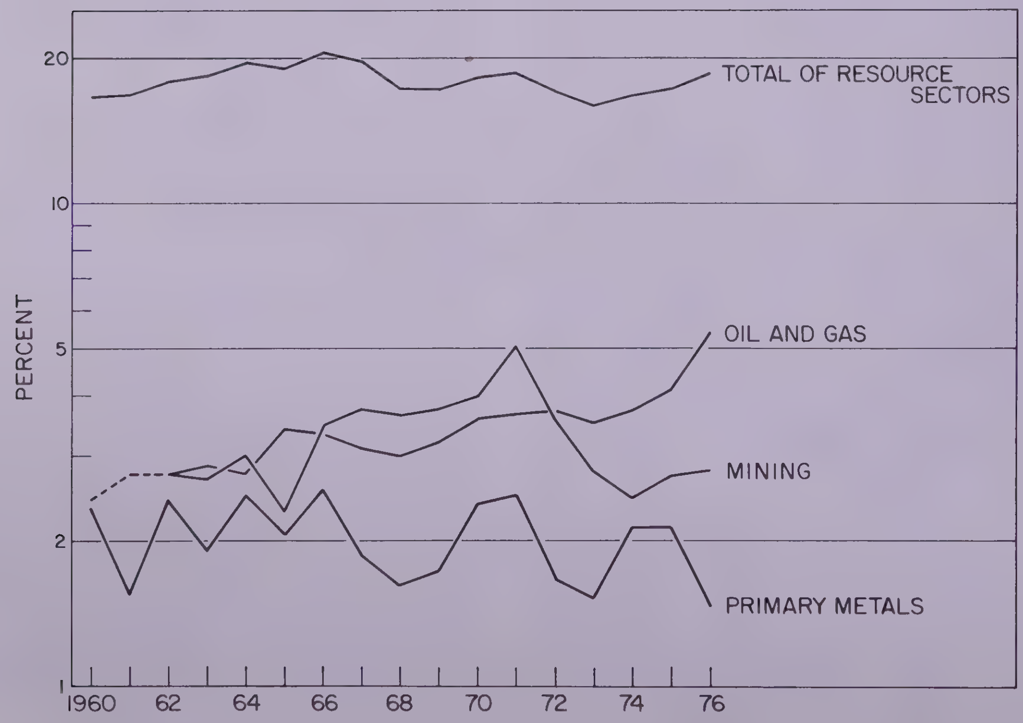

Figure 4: Non-renewable and Total Resource Investment as a Proportion of Total Canadian Investment.

gas. Long-term declines may be detected in **paper and allied, forestry**, and possibly **primary metals**. The shares of **mining** and **paper and allied** have fallen sharply since 1970-71, stabilizing at a point not far above half of peak levels. The drop was most startling in the case of **mining** which had shown a strong growth trend through the 1960's.

Clearly, with few exceptions, Canadian commodity producers have had difficulty maintaining their share of investment in recent years. Yet until 1975, this was a period when both the Canadian and world economies were growing rapidly, producing substantial demand for raw materials. The question which needs to be addressed is whether, under current prospective conditions, these industries will be able to restore former levels, or even maintain their current shares. This question has two parts: first, will there be opportunities for investment; and second, will the required funds be forthcoming?

Factors Which Affect the Demand for Capital

Among the determinants of future investment demand are: consumption of primary products; markets for Canadian commodities in competition with those of other producers; relative costs in Canada and abroad; influences of technology, scale, and imposed requirements; and the effects of stabilization schemes. Each of these is examined briefly, with illustrations drawn from specific industries.

Consumption of Primary Products

Barring substantial shifts in consumption patterns, the demand for primary conditions in the next ten to fifteen years will broadly parallel growth in the Canadian and world economies. In Canada, the real annual rate of growth is expected to be 4.5 percent for the near future, decreasing to 4.3 percent in the 1980's (down from 4.8 percent historically).[2] Thus, producers of beef and other commodities primarily for the Canadian market may observe a tendency towards reduced rates of investment growth, other things being equal.

But most of the commodities we are concerned with depend largely on export markets, in the United States and elsewhere. Detailed estimates of future long-term U.S. and world economic growth are not available, but for various commodities indicated consumption growth rates vary from 3 percent (a doubling every 25 years) for base metals to 6 percent or more for potash. Of more concern, however, is the fact that production facilities for copper, zinc, nickel, pulp and paper, and other commodities are currently operating below capacity. There will be few incentives for further investment until some of the slack is taken up by renewed growth. For exporters of grains and oilseeds, wild swings in demand are superimposed on growth trends, making investment planning difficult.

In the longer term, the absolute magnitude of world consumption is perhaps of less importance than the question of whether Canadian producers will be able to maintain a substantial market share.

Canadian Commodities in the Market

The problems of access to foreign markets are of concern to pulp and paper, base metals (escalating tariffs), and aluminum. For beef, the problem is to prevent the Canadian market from becoming a dumping ground for surplus foreign production.

Setting aside for a moment the question of Canadian production costs, the most serious issue faced by Canadian producers of many commodities in the market at present is persistent overproduction at a time of weak demand. Stocks of copper, nickel, and zinc have climbed to record highs, while world production continues, in some instances at prices well below cost. Whether the objective is to obtain needed foreign exchange and employment for less-developed economies, or to cover high fixed interest charges (for recent projects largely financed by debt), the result is a major dislocation in markets. At issue is whether the decision-making process is permanently distorted. If present trends continue even in the medium term, Canadian producers may be backed out of world markets and forced to shut down existing capacity, or at least curtail new investment in Canada.

The assumptions behind two recent projections of mineral investment are worth comparing. Both studies estimate the future growth of production in the world and in selected countries. One is by officials of Energy, Mines and Resources Canada (EMR),[3] the other by officials of the World Bank (IBRD).[4] In Table 1, growth rate projections from the two studies are compared. The authors of the Canadian study felt that their estimates were optimistic. Nevertheless, Table 1 shows that in every case the IBRD estimates of world growth are higher, and the projected growth of production in developing countries much higher, than those estimated by EMR for the world and for Canada. Only in lead does an IBRD projection of growth fall at or below the EMR estimate.

Of concern is the possibility that for a variety of reasons, capacity will be installed (particularly in developing coun-

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[2] D. D. Peters, "Energy Investment and the Canadian Economy" A View to 1990: presented to the House of Commons Standing Committee on National Resources and Public Works, 31 May 1977. Toronto-Dominion Bank, *Occasional Papers 6*, No. 2 (June 1977), pp. 4-5.

[3] G. S. Barry and G. E. Wood, "Capital Needs in Canadian Mining, Smelting and Refining", in *Foreign Investment Review* (Autumn 1977), pp. 6-8.

[4] K. Takeuchi, G. E. Thiebach, and J. Hilmy, "Investment Requirements in the Non-Fuel Mineral Sector in the Developing Countries", in *National Resources Forum 1*, No. 3 (1977), pp. 263-75.

Table 1

Projected Growth in Production of Selected Minerals (Compound Annual Growth Rate in Percent)

	IBRD 1975-1985			EMR 1975-2000	
	World	Developed Countries	Developing Countries	World	Canada
Aluminum (Refined)	8.8	7.7	16.9	4.0[a]	1.4
Copper	4.8	4.5	5.1	3.0	3.2
Iron Ore	5.3	5.9	4.3	4.5	2.1
Lead	2.9	1.5	5.9	2.5	1.8
Nickel	7.5	7.4	7.5	5.0	0.9
Zinc	5.3	4.8	6.8	3.5	2.7

Sources: Calculated from production and capacity figures provided in: K. Takeuchi, et. al., "Investment Requirements" (IBRD) and G. S. Barry and G. E. Wood "Capital Needs" (EMR).
See footnotes 3 and 4 for complete references.

Notes: The IBRD data compare projected production in 1985 with production in 1975. The EMR data compare projected capacity in 2000 with production in 1975. My calculations treat capacity as equivalent to production.

[a] Obtained from a background paper on aluminum.

tries) at high rates similar to those projected by IBRD, while the true rate of market growth is substantially less. If this happens, then Canadian producers will face world oversupply for many years, with the expected distortion of normal investment patterns.

Relative Production Costs

Even in "normal" times Canadian producers must be cost-competitive to maintain investment incentive. It is generally accepted that manufacturing costs are higher in Canada than elsewhere. A growing concern is that the same may be true for the resource commodities, in which we have hitherto felt we possessed a comparative advantage. For example, the pulp and paper industry has noted that "Canada in the past decade has become a high-cost, low-profit country. . . ." In nonferrous metals, a "dramatic increase in capital costs" has been experienced in the 1970's. Unit production costs have more than doubled for both copper and nickel in the past ten years, largely due to labour and energy costs. In general, mineral production costs will tend to increase as grades decline and more remote deposits are developed.[5] According to a recent survey, Canada's production costs are slightly below the world average for at least one important metal, copper.[6]

The question is whether Canada will be able to maintain or improve its cost performance relative to other commodity producers in future years. To do so will call for efficiencies of scale, technology and management, together with realistic public policies and wage expectations.

Technology, Scale, and Imposed Requirements

Grouped here are three influences which will tend to increase capital needs, but which may also heighten risk and reduce investment incentive. First, commodity production has become more capital intensive, and this trend may be expected to continue. Pulp and paper, mining, and smelting and refining (including aluminum) are already among the most capital intensive industries. Agriculture has been revolutionized in recent years, changing from a high-labour-content industry to one of substantial mechanization. One or two men may employ buildings and equipment worth several hundred thousand dollars. While this trend has improved efficiently, it has also brought financing problems in its wake, and raised barriers to entry. One disturbing signal that the benefits may be approaching a limit (at least for mining) was given by a recent EMR report. It noted that labour productivity had continued to grow with increasing capital intensity, but that "factor productivity" (a measure of the combined effectiveness of labour and capital) has been on the decline since at least the mid 1960's.[7]

The scale of commodities projects around the world has increased dramatically and will continue to do so until a limit of efficiency is reached. The large doses of capital needed are increasingly beyond the internal financing capabilities of individual corporations, and the consequences will be discussed in other parts of the paper. All are familiar with energy projects in the order of $1 billion, but individual mining and mineral processing projects are now producing upwards of 100,000 tons of metal per year, and may cost $300 million to $500 million or even more. In terms of agriculture, pulp and paper, and minerals, Canadian production facilities have been of economic scale in the past (contrary to the situation in manufacturing). The question will increasingly be whether we shall be able to keep pace.

Imposed requirements include: the need for repair and replacement of productive capacity; infrastructure requirements; and environmental protection investments. Each of these classes represents additional investment which may be "unproductive" to the investor, but is required to remain in business. It has been estimated for example that, over a twenty-five year period, at least as much investment is required to maintain existing capacity as to capture new growth. This maintenance-of-business expenditure is required merely to sustain production levels. Infrastructure investments are usually associated with new developments, such as rail and harbour facilities to handle growing grain and mineral traffic. Of more concern is the imposition of environmental regulations that may apply to old facilities as well as new. In the case of INCO's Copper Cliff nickel smelter/refinery, some published estimates of cost to meet Ontario's air emission requirements ran as high as $2 billion. This is a particularly dramatic example, but it seems to illustrate that such imposed requirements can create a substantial demand for funds to protect existing investment, perhaps at the expense of investment in new capacity.

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[5] In this connection it is interesting to compare the projected unit capital costs estimated by Barry and Wood for additional mineral capacity in Canada with those estimated by Takeuchi *et. al.* for developing countries. The Canadian costs are: higher for copper, lead, zinc; lower for nickel; and very similar for iron ore mining and aluminum refining.

[6] Consolidated Gold Fields Limited, private communication.

[7] R. B. Elver, *Mineral Industry Trends and Economic Opportunities,* EMR Mineral Policy Series, MR 158 (Ottawa: Department of Supply and Services, 1977), p. 24.

The Effect of Stabilization Schemes

Though international commodity agreements for agricultural products have a long history, similar arrangements are now being promoted for a wide array of other primary commodities. The impetus comes largely from developing countries seeking a "New International Economic Order" through stabilization of export earnings. At the same time, the industrialized consuming nations see some advantages in terms of security of supply and stable prices. An additional feature of some schemes is the existence of preferential trade arrangements between producing and consuming blocs (developing-country producers in Africa having preferential access to EEC markets, for example).

Among the stabilization mechanisms proposed is the maintenance of very large international buffer stocks. If these consist, as has been suggested, of several months' world production of eighteen or more major commodities, the capital requirements will be very great. Financing would be provided by both producers and consumers.

Canada's participation would impose direct capital demands on Canadians (private producers and/or governments) which might amount to several billion dollars. For copper alone, Canada's share of a stabilization fund would be $300 million to $400 million. If market stabilization helps prevent overbuilding, a partial offset would exist. A vital concern would be, however, that Canadian producers not be placed at a disadvantage by the operation of such schemes.

Factors Which Affect the Availability of Funds

A number of issues arise in considering the relative attractiveness of investment in commodity production in Canada. These are of course subsidiary to the overriding influence of after-tax profitability, the "bottom line". Several factors which affect the supply side have necessarily been alluded to in the previous section, so the following discussion will be relatively brief.

Sources of Funds

It used to be said that resource capital stayed with the same resource but was mobile geographically. When new projects could be funded from the retained earnings of resource companies and from speculative share issues, the saying may have been true. However, present stock exchange requirements are more restrictive, and — more significantly — the ability to maintain adequate cash flow has declined. At the same time the scale and cost of new projects have escalated rapidly. New financing structures are emerging, with profound implications for the future.

For example, the after-tax profits of Canadian metal mining companies have declined sharply relative to manufacturing in the 1970's, mainly due to taxation changes.[8] Moreover, many commodities are at depressed price levels, with little prospect of recovery until market balance is restored. Major mineral projects are therefore increasingly being financed by debt, resulting in tighter investment criteria and heavy fixed charges. Cash-rich energy corporations are investing in other resources.

Agricultural and other commodity producers are accustomed to view governments as regulatory bodies. But the active participation by governments as owners is relatively recent, both at home and abroad. The channelling of public funds into resource production, either by purchase or by participation in exploration, may increase the flow in funds. At the same time, such action introduces new non-market considerations and raises questions of management policy that will long be debated.

In the final result, the ability of commodity producers to find enough investment funds in Canada will depend on Canadian economic performance and the savings rate. Projections referred to earlier indicate that real growth in the Canadian economy will decline from past levels, but will remain above 4 percent annually. Savings will increase from about 20 percent of GNE to about 25 percent. However, much of this increase will be earmarked for energy capital. The amount available for other commodities remains problematical.[9]

It seems likely that some foreign capital will still be required. The desirability of direct foreign investment has been in the form of debt. Such a trend may be occurring in any case, for reasons quite unconnected with the foreign ownership debate. But whether in the form of equity or debt, the supply of foreign capital will be very sensitive to Canada's investment climate in comparison with those of other countries.

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[8] *Ibid.*, p. 26.

[9] D. D. Peters, "Energy Investment", p. 6.

Elements of the Investment Climate

We have discussed the purely economic factors which determine the relative attractiveness of commodity investment in Canada, such as capital and operating costs and market access. But other, less readily measureable factors play a large part in the investor's assessment of risk. It has now been recognized that Canada experienced a high level of commodity investment in the past two decades, not because of unusual endowments of the basic resources, but because of a comparative advantage in other respects. These included political stability, a well-trained and growing workforce, and the availability of technical services and other factors.[10]

Events of the early 1970's have, however, caused many to question whether a favourable climate can still be said to exist in Canada. Governments have clearly indicated a preference for economic activity other than the production of commodities. Mining profits have been taxed at levels higher than those in manufacturing. Some governments have said that private capital is not necessary for the development of resources in their territories. Layoffs occasioned by market downturns have brought demands for nationalization of the industry.

But even though the situation in Canada has changed over a period of time, it should not be viewed in isolation. The important question is whether Canada is more or less attractive than other jurisdictions. Hansuld said in 1975: "Canada isn't as good as it used to be (but) it's still a helluva lot better than most."

How does Canada compare in 1977? The investment climate has certainly begun to improve. For example, there are signs of more widespread acknowledgement that Canada's "resource power" is a thing of the past, if it ever existed. Fears have been allayed that the nationalization of potash and asbestos will be carried out in an arbitrary manner. The most extreme tax measures have been modified. The observer may feel with some justification that the worst is over. At the same time, however, other countries are becoming more hospitable to commodity investment. Where only a few years ago expropriation and/or renegotiation of resource concessions were commonplace, developing countries have also substantially modified their demands on commodity producers.

Two major copper mining development agreements signed in 1976 (one in Panama and one in Papua New Guinea) illustrate this trend. Both provide for a sharing of risk between the host country and the developer. While sovereignty over the resource is explicitly assigned to the host country, operating decisions are in the hands of the developer. Most important, both agreements provide for an early cash return to investors and both provide for dispute settlement procedures involving decision-makers from outside the host country. These two agreements are not isolated cases: "This increased receptivity for the needs of foreign investors, and a parallel recognition of a need **for** foreign investors, is apparent . . . in several other countries as well."[11]

We must ask outselves whether Canada's investment climate is comparable to those of other countries which are competing for the same funds.

Summary of Investment Issues

Without further elaboration, it may be useful to conclude this paper with a list of questions which will need to be addressed by policy makers in specifying a national investment policy on commodities:

1. Will Canadian and world economic growth be sufficient to eliminate current surpluses and restore normal investment incentives in the foreseeable future?
2. To what extent can current trade negotiations obtain access for Canadian export commodities while preventing dumping of other countries' surplus production on the Canadian market? What trade-offs are possible?
3. Is overproduction by non-market commodity producers a permanent fact of international trade? Are there built-in biases towards artificial capacity growth in the developing countries? Will commodity agreements and stabilization schemes create or reinforce such a tendency?
4. Are Canadian commodities cost-competitive with those of other producers? Are Canadian costs tending to increase or decrease relative to others' costs? What are the most sensitive areas of cost control?
5. Has the substitution of capital for labour reached limits of effectiveness? Will the technology of commodity production continue to become more capital intensive?
6. Are Canadian commodities produced at an economic scale? As the scale of projects increases, does Canada have the financial, market, and institutional capability to handle the necessary investment?
7. Are the so-called "unproductive" investment costs for infrastructure, environmental controls, etc., comparable in Canada to those in other countries? If not, can innovative solutions be found or trade-offs be recalculated?
8. Is investment in buffer stocks and stabilization funds the best use of scarce capital?
9. Will new financing structures continue to evolve? What are the implications of heavier debt loads? Of the use of public funds? Of the decline of cash flow as a source of investment?

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[10] John A Hansuld, "Why in Canada?" in *Canadian Mining Journal,* (April, 1975), pp. 22-26.

[11] Stephen A. Zorn, "New Developments in Third World Mining Agreements" in *Natural Resources Forum 1,* No. 3 (1977), pp. 239-50.

10. Will the Canadian economy supply all the investment funds required, or will foreign capital be required? In what form? With what implications?
11. How does the socio-political climate for investment in Canada compare with that in other countries? In what direction is the balance shifting?

The way Canadians resolve to answer these questions will shape the future of the resource industries in this country. If we take no conscious action, the answers will be determined by the activities and interests of other nations and blocs of nations. We may not like the result, but by then it will be too late.

Outdoor Recreation and Regional Development

by
W. A. N. Brown

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Introduction

There is very scanty information on the effects that development of outdoor recreation resources has on regional economies. It is clear that the relationships between this type of resource development, the economy, and policy goals, are poorly researched and understood, and secondly that no quantitative data, except some analysis of visitor expenditures, is available on the topic. If public policy is to encourage expansion of outdoor recreation facilities in a judicious manner, the program-economy-policy goals linkages must be identified and quantified so that the probable impacts of alternative programs can be estimated and priorities established. This paper describes a research study with this objective – the analysis of the regional impacts of outdoor recreation development, and the policy implications of this form of development.

The recreation program examined was part of an Area Rural Development Plan in the Interlake region of Manitoba. The Plan was jointly funded by the Province of Manitoba and the Canada Department of Regional Economic Expansion. The broad objectives of the rural development plan were to increase income and employment opportunities and standards of living. Development programs included outdoor recreation, education, drainage, land clearing, manpower training and fisheries adjustment.[1] The objectives of the recreation program were to enhance and complement the Manitoba recreational areas within 100 miles of Winnipeg along the west shore of Lake Winnipeg and to provide construction service and training jobs.

The park is situated 90 miles north of Winnipeg on Hecla Island in Lake Winnipeg. A small campsite existed prior to park development; development of hotel facilities occurred after the study period. Hecla Provincial Park will serve an existing and increasing recreational demand for day trips, sight-seeing, camping and cottage facilities. During 1968-1977, the outdoor recreation development program at the Park (including Provincial expenditure in addition to the development plan) involved the following expenditures (1968 dollars): $4.413 million in capital construction, $0.4 million in manpower corps training, and $1.2 million in operations and maintenance. The new Park also generated $299,000 in *additional* spending by recreationists visiting the Interlake region.

The method employed in the study was a dynamic twenty-four sector input-output simulation analysis through which the impacts of capital formation, operations and maintenance expenditures, visitor expenditures and induced household consumption effects associated with establishment and operation of Hecla Provincial Park, on the Interlake economy of Manitoba, during 1969 to 1977, were quantified.[2] Policy goals were used to identify four relevant development indicators: gross output, household income, employment and government revenue.

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[1] For detail of the Interlake Rural Development Plan and program evaluation refer to MacMillan, J. A., Lu, C., Framingham, C. F., *Manitoba Interlake Area: A Regional Development Evaluation.* Iowa University Press, 1975; and MacMillan, J. A., Lyon, S., *The Interlake Experience: A Description and Evaluation of a Rural Development Program,* 1967-1977, Occasional Series No. 9, Department of Agricultural Economics, University of Manitoba, 1977. The ten year Interlake Plan terminated in March, 1977.

Regional accounts for the Interlake economy had been developed from a 1968 survey so the regional input-output model was already available. However, since no data on visitor expenditure patterns were available, a primary data collection program was designed and a visitor survey was implemented during the summer of 1975.[3] This provided the only new data input required for the study.

The following results emerged from the analysis (1968 dollars):

1. During 1969 to 1977, gross output realized in the regional economy was increased by $4.5 million, household income was $2.1 million, and employment opportunities of 492 man-years created. This represents annual additions of less than 0.5 percent in each of these indicators.
2. Most of the impact is localized into the non-farm sectors of the Rural Municipality of Bifrost, the area bordering the Park. In 1976, for instance, output in this Municipality was projected to increase from $16.8 million to $17.0 million (1.1 percent), household income from $5.4 million to $5.5 million (3.1 percent), and employment opportunities from 1,109 to 1,138 man-years (2.6 percent), due largely to the extent of park related government expenditures in the town of Riverton.
3. Capital formation generated most of the impact early in the program, but as the derived demand for goods and services fell from this source, operations and maintenance expenditures increased substantially and formed the basis for the continuing impact from 1975. Expenditures by recreationists attracted to the Interlake by the Park contributed less than five percent of the derived demand in 1976, but since growth rates in recreational activity are high, this proportion will gradually increase.

The remainder of this paper interprets these results in terms of the role that development of outdoor recreation resources has to play in regional development. Outdoor recreation and agricultural resource development programs are compared in terms of their effectiveness in meeting specified regional development goals. The relative contributions of park operations and maintenance, and visitor expenditures to regional impacts are then discussed, and the sensitivity of visitor expenditures to such parameters as stay length and availability of goods and services is analyzed. Tourism is compared with outdoor recreation as a regional development stimulus, and distributional considerations are then derived. The last part of the paper summarizes the role of outdoor recreation in regional development policy.

The Relative Effectiveness of Resource Development Programs

Since a similar regional impact evaluation has been undertaken for agricultural development programs involving drainage, land clearing and farm management training[4] it is now possible to compare these and make conclusions as to their relative effectiveness in achieving both provincial policy objectives and the evaluation criteria identified for the Interlake Development Plan. Approximate capital costs for the Interlake drainage, land clearing and farm management training programs were $6.8 million, $4.4 million and $0.9 million respectively (1968 dollars).

It is essential in any comparison of these programs that the capital development and operational phases of the program impacts be separated, so that both the short and long-term implications for policy can be studied. It is, for instance, very likely that some types of development expenditures have high initial regional impacts but minimal continuing effect on the local economy, and although average impacts may exceed those of an alternative program, the latter may well be preferable due to capacity constraints in the economy and for long-term stability reasons. Average annual program impacts per million dollars of capital expenditure on regional economic development indicators are shown in Table 1 under the two classifications "capital phase" and "on-going phase", all figures being in 1968 dollars.

Consideration of Table 1 clearly demonstrates that there is no "best" program to achieve all regional development policy objectives, and that each type of resource development has particular advantages depending on the priority assigned to target variables. For instance, drainage has the highest initial impact on household income, but farm management has a larger on-going effect. The latter also generates the largest impact on employment. Both the land clearing and outdoor recreation development programs appear to have relatively smaller impact on the indicators listed, than have drainage or farm management, but outdoor recreation has a larger impact than land clearing on non-agricultural household income and employment.

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[2] Brown, W. A. N., "The Role of Outdoor Recreation in Regional Development: A Study of Hecla Provincial Park." Ph.D. Thesis, University of Manitoba, 1977.

[3] Brown, W. A. N., Lyon, S., MacMillan, J. A., *Hecla Provincial Park: Data Collection Procedures and Analysis of Recreation Usage,* Res. Bull. No. 76-2, Dept. of Agricultural Economics, University of Manitoba, 1976.

[4] Tung, F. L. "A Dynamic Model for Simulating Development Program Impacts in the Interlake Area." Ph.D. Thesis, University of Manitoba, 1975.

Table 1

Average Annual Impacts of Resource Development Programs
per $1 Million Capital Expenditure,
Interlake Region, 1969-1977
(1968 Dollars)

	Average Annual Impacts per $1 Million Capital Expenditure							
Program	**Drainage[a]**		**Land Clearing[b]**		**Farm Management[c]**		**Outdoor Recreation[d]**	
Economic Indicators	**Capital Phase 1969-1973**	**On-going Phase 1974-1977**	**Capital Phase 1969-1973**	**On-going Phase 1974-1977**	**Capital Phase 1969-1973**	**On-going Phase 1974-1977**	**Capital Phase 1970-1974**	**On-going Phase 1975-1977**
Realized gross output ($1,000)	2,271.5	3,085.1	571.7	791.9	2,211.6	3,182.1	146.9	98.2
Agriculture[e]	1,482.0	2,087.4	296.6	548.4	1,392.5	2,100.7	8.8	6.1
Non-agriculture	789.5	997.7	275.1	243.5	819.1	1,081.2	138.1	92.0
Household income ($1,000)	557.7	763.8	129.3	197.8	531.7	778.4	59.4	57.9
Agriculture[e]	449.3	630.8	90.0	165.9	422.5	635.3	2.6	1.9
Non-agriculture	108.4	133.0	39.3	31.9	109.2	143.1	56.8	56.1
Employment (man-years)	153.8	137.2	42.8	55.5	185.8	215.8	15.7	11.0
Agriculture[e]	129.5	109.9	33.8	46.8	160.3	185.3	0.7	0.5
Non-agriculture	24.3	27.3	9.0	6.7	20.5	30.5	15.0	10.5
Government tax revenue ($1,000)	56.4	76.9	13.1	20.0	54.8	79.2	4.2	2.1
Agriculture[e]	43.0	60.0	8.5	15.8	40.5	60.7	0.3	0.2
Non-agriculture	13.4	16.9	4.6	4.1	14.3	18.5	3.8	1.9

[a] Capital expenditure on the drainage program totalled $6.79 million during 1968-1973, all incurred by the Government.

[b] Capital expenditure on the land clearing program totalled $4.39 million during 1967-1973, $0.707 million of which was government expenditure and $3.68 million was clearing costs incurred by farmers.

[c] Costs of the farm management training program totalled $0.88 million of government expenditure during 1967-1973.

[d] Capital costs of the outdoor recreation development program at Hecla Provincial Park totalled $4.413 million of government expenditure during 1968-1975. The majority of this was incurred over the 1970-1974 period, the Park opening in 1975.

[e] "Agriculture" is defined as sectors 1-2 for the Drainage, Land Clearing and Farm Management Programs, and sectors 1-3 for the Outdoor Recreation Program. The difference in classification has negligible effect on the analysis.

Source: Brown, W. A. N., "The Role of Outdoor Recreation in Regional Development: A Study of Hecla Provincial Park" Ph.D. Thesis, University of Manitoba, 1977.

But what of the longer term impacts, over a ten and twenty-year horizon? There has been no detailed analysis on this aspect, but a few preliminary observations can be made. In the last two years of the on-going phase of the development programs, 1976-1977, outdoor recreation exhibits substantial growth on all four impact indicators, while the other three have minimal (output and income) or decreasing (employment) impacts. This reflects the growth displayed by the outdoor recreation industry, with substantial increases in both operations expenditures and visitation (and therefore visitor expenditures). Outdoor recreation impacts will therefore increase markedly over time, and while an evaluation of alternative programs over a five year period may reject outdoor recreation as a means of achieving certain policy goals, if the evaluation were longer term, the positions and rankings may be more comparable or even reversed.[5]

Recreation Impact Components

The on-going regional impact of any outdoor recreation development program arises from two components: operations and maintenance expenditures at the Park and local expenditures by visitors to the Park. The major source of regional impact derives from the first component, operations and maintenance expenditures, for in the two operational years of Hecla Provincial Park, 1976 and 1977, the operational expenditures generated 74 percent, 94 percent and 92 percent of the impacts in regional gross output, household income and employment opportunities respectively. This is because a large proportion of these expenditures was for salaried staff and wage earners, and these payments represent direct inputs into the household sector. Clearly, the proportion of impact attributable to operational expenditures will decline over time given that average visitor growth rates of approximately 10 percent per annum exceed projected annual increases of four to six percent in these expenditures. However, if operational expenditures grow at five percent per annum, it would not be until 1997 that the magnitude of regional impacts would be equally attributable to both operations expenditures and visitor expenditures.

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[5] For instance, if outdoor recreation visitor expenditures increase at an average of 10 percent/annum the magnitude of impacts from this source will be fourfold the initial level in fifteen years. Conversely, drains in an agricultural program may well have silted up over a similar time span and drainage program impacts become negligible. A logical extension of this research would be to investigate the relative merits of alternative resource development programs over the long term by projecting expenditures and discounting the impacts generated.

An important implication of this analysis is the extent to which the local economy will be affected by the seasonality in visitor expenditure patterns. When the majority of regional impacts are generated from operations expenditures, season visitor expenditures will have little destabilizing effect, and this is certainly the case for the early years of operation of Hecla Provincial Park. In addition, where total impacts are small relative to aggregates of the regional economy, the seasonality effects are further reduced. However, it is clear that while the overall implications of seasonality of visitor expenditures on the regional economy is probably small, the effect on particular establishments may be very significant.

Visitor Expenditure Impacts

The magnitude of regional income and employment impacts generated by visitor expenditures is highly dependent on four factors. These are:

1. the number of visitors,
2. the type of visitor,
3. the length of stay, and
4. the availability of goods and services

Participation in outdoor recreation is rapidly increasing. Participation increased 10 percent per annum over the past twelve years and campground use rose 13 percent per annum over the same period. This growth in visitation will be reflected in the associated regional impacts from expanding demand for goods and services, and establishments serving the outdoor recreation market from a high-growth industry. For example, the impact of visitor expenditures by all visitors to Hecla Provincial Park on the realized gross output of the Interlake economy is projected to rise from $97,200 to $191,500 between 1975 and 1978, an increase of 97 percent in three years.[6]

The socio-economic characteristics of visitor parties is also an important consideration for impact analyses – especially *ex-ante* project evaluations. The type of party attracted to a park (which is determined by the recreation experience supplied) determines the expenditure pattern of visitors while travelling to and from the site, and while at the site. Little analysis has been undertaken attempting to link these two variables, but on theoretical grounds, higher income family groups will have potentially greater party expenditures on consumption items than lower income families or single person parties. Since visitors to Hecla Provincial Park are concentrated in the higher income bracket (over 78 percent of visitors in 1975 came from families with 1974 incomes exceeding $10,000), expansion of average party expenditures is probably more constrained by the availability of goods and services locally than by the socio-economic level or expenditure potential of the park clientele.

The two remaining factors, length of stay and availability of goods and services, are closely linked. It is essential that goods and services be available to meet projected consumption demands by visitors for otherwise, even if stay length increases, local impacts will remain unchanged when expenditure opportunities are limiting.[7] This latter constraint, the availability of goods and services, appears to be the major factor which constrains additional expenditures by outdoor recreationists visiting Hecla Provincial Park.

The 1975 Hecla survey asked visitors for their comments or suggestions on the Park and its facilities, and it is clear from the responses that many considered the availability of goods and services to be inadequate. The demand for additional provision of goods and services in all sectors was evident and it is probable that if the appropriate facilities were available, substantially increased expenditures would be made and this could have significant effect on the local economy and visitor expenditure impacts. As an example, the effect of a doubling of visitor expenditures in retail and restaurant sectors leads to substantial increases in regional economic impact: realized gross output by 66 percent, employment by 72 percent and household income by 69 percent. This is because of the high sectoral multipliers associated with this type of spending.

A final critical factor in determining the magnitude of regional income and employment impacts generated by visitors to a newly established park is the substitutability between the park and other recreational sites in the region. If the park diverts visitors from nearby recreation areas by providing a similar recreation experience, the net economic impact to the region may be small since this regional impact is dependent upon *additional* visitors being attracted to the region, and is not affected by a redistribution of current visitor levels within the region. The 1975 Hecla survey found that nearly 50 percent of the park visitors would have come to the Interlake even in the absence of the new park. Therefore, although the gross impact on the regional economy from expenditures by all visitors to the Park may be significant, the net impact from the development of the new site will be much reduced. To illustrate this, the gross impact in 1978 of expenditures by visitors to the park on realized gross output is estimated at $191,500, but the net impact is 31 percent less than this at $131,400 (1968 dollars), with similar reductions in employment and household income impacts. It is essential for maximum regional impacts, therefore, that new parks be designed so as to attract the maximum number of additional visitors to the region rather than provide similar facilities to those already available locally.

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[6] Brown, W. A. N., "The Role of Outdoor Recreation", 1971.

[7] When a park, such as Hecla Provincial Park, is located within reasonable proximity to a major urban centre, camping activity is dominated by weekend visitors and stay length invariably averages around 2.0 nights. The potential to extend this is very limited in these situations.

Tourism and Outdoor Recreation

A clear distinction between tourism and outdoor recreation is critical for policy analysis – briefly, tourism involves all travel for whatever reason when the trip made is not part of a daily routine, whereas outdoor recreation at parks relates solely to those trips made voluntarily during leisure time. It is essential that this dichotomy is kept in perspective, for analyses of the impacts of the tourism industry are not transferable to evaluations of outdoor recreation, and vice versa.

The differing regional impacts of tourism and outdoor recreation can be illustrated with reference to Interlake data. The survey of Interlake businesses by MacMillan, Lu and Framingham[8] estimated the sectoral composition of sales of $5.2 million to travellers in the region for 1968. These expenditures were concentrated in the personal service (including hotels and restaurants) and auto products sales and service sectors, and represented approximately four percent of total final demand sales in the economy. The multiplier (indirect and induced) effects of this expenditure on regional sales and income were also calculated, resulting in a total sales multiplier of 1.25 and an income computer of 0.26 for this component of final demand.[9]

A comparison between the sectoral allocation of tourism (traveller)[10] expenditures and recreation expenditures is given in Table 2. Sales to recreationists are more heavily concentrated in the food and retail rather than personal service sectors of the economy, commensurate with a reduced usage of hotels, motels and restaurants which are patronized more by travelling salesmen and businessmen. Since the sectoral multipliers differ markedly, this difference will be reflected in the income and employment generation effects of outdoor recreation development programs vis-a-vis other programs within the tourist sector. High multipliers are associated with the personal service sector, and therefore regional sales, income and employment effects generated are substantially less from "outdoor recreationists" than from "travellers", although the out-of-region spinoffs are provisionally estimated to be of the same magnitude and significance.

Table 2

Sectoral Allocation of Sales to Travellers and Recreationists

Sector	Travellers Interlake Region	Recreatonists Hecla Provincial Park
	percent	
7. Construction	2.7	–
9. Farm Equipment, Building Material	0.7	–
10. Food Stores	5.6	30.2
11. Other Retail	5.5	14.2
12. Auto Product Sales and Service	24.1	33.8
13. Apparel and Shoes	0.5	4.2
14. Furniture and Appliance	–	–
15. Insurance	0.7	–
16. Personal Service	54.4	17.6
17. Other Service	5.8	–
	100.0	100.0

Compared with the traveller sales and income regional multipliers of 1.25 and 0.26, the figures for outdoor recreationists are 1.16 and 0.17. These differences are due to the sectoral composition of expenditures by the two types of visitors (Table 2) and emphasize the importance of precise definition of policy targets in making a decision on the type of development to be undertaken in this field. For instance, if income and employment are to be stimulated in the personal service sector, tourism should be expanded, but if the retail sectors are underutilized, expansion of outdoor recreation is a preferable policy.

Distributional Considerations

There are three important components in distributional analysis of public good investments. These are:

1. the beneficiaries from the project output

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[8] MacMillan, J. A., Lu, C., Framingham, C. F., *Manitoba Interlake Area,* 1975.

[9] A one dollar expenditure by travellers generates sales of $1.25 in household income. Substantial imports to Winnipeg, leakages and investment multiplier effects are omitted.

[10] "Travellers" were defined as non-Interlake households and included recreation visitors, government administrators and travelling salesmen.

2. the beneficiaries from the economic impact of the project, and
3. the source of the capital and operational funds needed for the project.

Each of these topics is discussed in the following subsections in order to evaluate the distributional impact of the outdoor recreation development program at Hecla Provincial Park.

Beneficiaries from project output. A public park generates two types of primary impact benefit – the consumer surplus to recreationists from the recreation experience in visiting the park, and the option demand that may exist for that specific type of resource use. If it can be assumed in the case of Hecla Provincial Park that the magnitude of consumer surplus benefits is the same for each visiting party, the distribution of consumer surplus benefits among income classes will parallel the distribution pattern of visitors to the Park by income class.[11] The visitor survey showed that for all party types from Manitoba visiting Hecla Provincial Park in 1975, 77.1 percent had 1974 incomes in excess of $10,000. The most recent data on family income in Manitoba reveals that in 1970, 32.8 percent of Manitoba families and 41 percent of Winnipeg families had incomes in excess of $10,000 which, even with the growth of incomes in the intervening period, demonstrates that the visitors to Hecla Park, and the beneficiaries of the primary impact, are concentrated in the higher income brackets of the population.

Beneficiaries from regional economic impact. One of the primary goals of the development program in the Interlake area was to increase income opportunities and the standard of living for the local people. The Interlake is a predominantly agricultural region with 40 percent of households classified in 1968 as "rural farm", 24 percent as "rural non-farm", and 36 percent as "urban".[12] The low income households in the region are concentrated in the farm sector which in 1968 contained 53 percent of Interlake households with family income under $1,500.

The outdoor recreation development program at Hecla Provincial Park has generated impacts on money income and employment both at the regional and municipal levels, but these have been concentrated in the non-agricultural sectors with negligible spillovers into agriculture. In addition, the jobs which are created tend to be in the higher income occupation categories. For instance, Framingham, MacMillan and Sandell[13] estimate the average 1968 household income in Bifrost was $5,666, and those with occupations in the management, professional, labourer and craftsman category (the people employed in the Hecla project) had above average incomes. Furthermore, during 1961 to 1968 when the labour force in Bifrost decreased from 1,475 to 1,142 (23 percent) the public administration sector was one of the two that showed an increase in employment.[14]

The jobs that are created by the recreation program are not therefore in the industries from which out-migration is occurring. It is clear that such development programs, compared with agricultural resource development programs, do not directly affect the primary target population in agriculture in the Interlake but can markedly affect the rural non-farm and urban populations (assuming relative prices do not change). From a policy viewpoint, it is critical that this division is understood since few trickle-down effects occur. It is also important that decision-makers clearly understand that the main beneficiaries of the economic impact will be the non-farm population. To the extent therefore that money income and employment opportunities are to be generated in urban centres, the development of this type of outdoor recreation will have significant impact, primarily concentrated in the local service centres close to the Park.

Payments for costs based on benefits received. If it is assumed that the capital and operational costs of the Park are financed in a way equivalent to the average of all government expenditures which are funded from general revenue monies raised by Federal and Provincial taxation on individuals, the majority of these costs are borne by the higher income groups in the population. From 1974 taxation statistics, 25.6 percent of individuals in Manitoba earned in excess of $10,000 in 1974 but contributed 74.3 percent of individual tax revenue. Furthermore, the similarity between percentage of park visitors is striking, and suggests that those who receive the primary benefit from the park are those who pay for its costs – the benefit taxation principle of Erik Lindahl.

Redistribution. Two conclusions can be drawn from the above discussion regarding the redistributional effects of the development of outdoor recreation resources such as Hecla Provincial Park. Firstly, those who experience the primary benefits of the recreation experience are those who contribute to its expense, and if redistribution in this context were a policy goal, the monies would be better spent providing recreation facilities close to centres of low-income populations where site access was not inhibited by cost. Secondly, the economic impacts in terms of income and employment generation are concentrated in the urban sectors of the regional economy. To the extent therefore, that rural-urban income disparities exist within a region, this type of investment will not, by itself alleviate the problem. Its main advantage in this context is the inter-regional perspective, in that development of outdoor recreation will generate income and employment opportunities within a region and therefore militate against inter-regional migration (thus allowing a stay option) and increasing inter-regional income differentials.

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[11] This implies, using the Hotelling-Clawson-Knetsch approach to the measurement of consumer surplus of recreation, that the costs of visiting the park are the same for each party, independent of their home location. Although this is a strong assumption, it is tempered by the facts that over 76 percent of the main-destination users of the park from Manitoba live in Winnipeg and there is a uniform park entrance fee. The argument also assumes that the marginal utility of money is invariant between income groups.

[12] Framingham, C. F., MacMillan, J. A., Sandell, P. J., *The Interlake Fact,* Winnipeg: Hignell Printing Ltd., 1970, p. 59.

[13] *Ibid.*, p. 147.

[14] MacMillan, J. A., Lu, C., *Urban Impacts of Rural Research Development Expenditures in the Interlake Area of Manitoba.* Res. Rep. No. 7, Agassiz Centre for Water Studies, University of Manitoba, 1973, p. 17.

Recreation and Regional Development Policy. This research has identified six factors as being of critical importance in maximizing the regional income and employment impacts generated from the development of outdoor recreation facilities. These are, in approximate rank order as follows:

1. Maximum involvement of local personnel in construction and operation,
2. use of the construction phase to provide training opportunities for local people under a Manpower Corps Program,
3. channelling of capital, operations, and maintenance expenditures into local firms,
4. provision of recreation facilities which will attract additional visitors to the region (non-duplication of existing facilities),
5. encouragement of local business to provide the range of goods and services desired by recreationists, and
6. provision of facilities to encourage increased stay length by visitors to the region.

Even with many of these attributes, however, this study suggests that with development such as is occurring within Hecla Provincial Park and the Interlake region, the majority of regional impacts generated are tied to local park service centres.

It was demonstrated that in the short term, the overall regional impacts of the outdoor recreation development program were small when compared with those generated by agricultural resource development programs (although the localised urban impacts were more significant).[15] One reason for this is the relatively low proportion of total capital expenditure on the program that was channelled into Interlake firms. All the capital costs of three agricultural resource development programs represented derived demand for goods and services from Interlake sectors, but only 30 percent of the outdoor recreation program expenditure was similarly allocated. The returns to this $1.3 million (1968) dollars were substantial and highlight the importance of maximum involvement of local businesses in the construction phase.

In addition, the economy is dominated by agriculture, with strong trickle linkages up into the urban sectors, but small dollar flows in the reverse direction. Agriculture resource development programs therefore, directly affect the economic base of the region with resulting implications for the urban sectors, whereas outdoor recreation impacts are generated only in certain locations and in non-farm sectors, with little trickle-down implications for the primary target population in agriculture.

In circumstances where the opportunities for expansion of the agricultural or industrial base of a region are limited, the development of outdoor recreation may provide a growth industry which would compensate for a declining rural economy, and provide a major opportunity both in job training and job creation. In the case of the Interlake economy, however, regional development policy objectives may be better achieved through capital investment to expand the existing agricultural base of the region. The potential in the short-term for increasing income, raising the standard of living of low-income families, and providing employment for those who alternatively would migrate out of the region is greater in this sector than from developing extensive outdoor recreation resources.[16]

There are certain specific advantages that outdoor recreation does bring to a regional economy which are not duplicated in other resource development programs. These are as follows:

1. A high potential for linking manpower training programs with the capital construction and operational phases,
2. generation of significant local urban impacts on income and employment,

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[15] The implications from a comparison of the long-run discounted impacts from alternative resource development programs may be different. Such information would be useful to policy makers for rational planning, and is a logical extension of this research.

[16] This is as opposed to an intensive type of recreation development, the impacts of which will differ markedly from the situation at Hecla Provincial Park. For instance, the conclusions made here are not directly transferable to an evaluation of establishing 5,000 cottage sites at Grindstone Provincial Park.

3. establishment of a stable, rapid-growth industry which is not subject to the fluctuations found in agriculture,
4. provision of a non-agricultural development program which can complement development in the rural sector, especially when rural-urban linkages are small,
5. inducement of improvement in the regional transportation system through increase in inter-regional vehicle traffic
6. preservation of natural resources and aspects of cultural heritage, and
7. promotion of social integration between regions.

If any of these parameters enter into the objective function of public decision-makers, then the priorities accorded to the development of outdoor recreation in the Hecla Provincial Park manner will be greatly enhanced.

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